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PROSPECTUS
OF
ARTS, SCIENCE, LAW AND
COMMERCE EXAMINATIONS
OF THE
UNIVERSITY OF ALLAHABAD
FOR
1926

Price 8 annas

ALLAHABAD
PRINTED AT THE PIONEER PRESS

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UNIVERSITY OF ALLAHABAD.

GENERAL ORDINANCES GOVERNING ADMISSION TO EXAMINATIONS OF STUDENTS OF THE UNIVERSITY AND OF ITS ASSOCIATED COLLEGES.

1 Every candidate for a degree shall, except when Ordinances made exempted by any of these Ordinances under Section 32 (c) be enrolled as a member of the University or of an Associated College before entering upon the course prescribed for such degree.

2. Any student who shall have (i) passed the Intermediate Examination of the Board of High School and Intermediate Education of the United Provinces or (ii) passed any other examination recognised by the regulations of the Academic Council from time to time as equivalent thereto, may be admitted as a student of the University or of an Associated College.

3. (a) A candidate for any University Examination shall not less than eight weeks before the date fixed for the commencement of the examination—

(1) pay into the office of the Registrar the fee prescribed for such examination ;

(2) intimate the subject or subjects in which he desires to present himself for examination ; and

11. The Registrar may, if satisfied that an examination admission card has been lost or destroyed, grant, on payment of a further fee of Re. 1, a duplicate examination admission card. The card so granted shall show in a prominent place the number and date of the card originally granted.

* 12. The University Examinations shall be held as follows :—

B.A. and B.Sc., at Agra, Allahabad, Meerut and Cawnpore and B.Sc. Practical Examination at all College Centres.

The Previous and Final Examinations in Law shall be held at Agra, Allahabad and Meerut.

The M.A. and M.Sc. at Allahabad and Agra.

The L.T. Examination at Allahabad.

The B.Com. Examination at Allahabad and Cawnpore.

13. A candidate who fails in one subject in any examination may, on payment of a fee of Rs. 10, apply for the re-examination of his answer-books, provided the application is made within 3 months of the publication of results.

14. The marks obtained by a candidate in each subject will be communicated to him on payment of a fee of Rs. 2; in the case of M.A. and M.Sc. Examinations the marks obtained in each paper will be communicated.

READMISSION TO UNIVERSITY EXAMINATIONS.

1. A candidate who has failed once in a degree examination other than in Law and Final M.A. or M.Sc., shall not be admitted to a subsequent examination, unless he has attended a regular course of study during the academical year in which the subsequent examination is held: provided that the Academic Council may, in exceptional cases, permit a candidate who has attended a regular course of study in any year, subsequent to the year in which he last failed, to be examined at the next examination.

A candidate who has attended a regular course of study for two years in the University or in a college associated with the University, and who has failed in the Final M.A., or M.Sc. examination, may be allowed by the Executive Council to appear again at a subsequent examination without attending any further regular course of study, provided that the Dean of his Faculty or the Principal of the Associated College in which he last studied recommends his application.

2. A candidate who has failed more than once in a University Examination may be admitted to a subsequent examination without attending a regular course of study, provided that—

- (i) he remains a student of the University or of an Associated College;
- (ii) not less than six months before the date fixed for the next examination he sends an

- application together with a fee of Rs. 2 to the Registrar setting out—
- (a) the conditions under which he has been studying and is now proposing to continue his studies ;
 - (b) the dates of his previous failures to pass in the examination ; and
 - (c) in the case of a Science candidate, whether he passed the practical examination at his last appearance for the Examination.

3. Any candidate for the B.A. or B.Sc. examination who has failed in one subject only, obtaining not less than 25 per cent. in that subject and has obtained 40 per cent. of the aggregate number of marks allotted to the remaining subjects, shall be admitted to the examination of the following year in the subject, in which he failed, and if he passes in that subject, he shall be deemed to have passed the examination. The fee for such an examination shall be prescribed by the Executive Council.*

4 Every ex-student who wishes to appear at subsequent examinations shall pay an annual fee of Rs. 5 in order to retain his membership of the Teaching University. Law students must pay this fee from 1925 onwards.

ADMISSION OF TEACHERS TO DEGREES.

1. Teachers in educational institutions will be eligible for examinations of the Allahabad University by the permission of the Academic Council subject to the conditions laid down in these Ordinances.

Ordinances made in reference to Section 5 (2) (b).

* NOTE. A fee of Rs. 15 for each subject has been fixed by the Executive Council, vide Resolution No 302, dated the 15th December, 1923.

2. A teacher who desires to enter for an examination must apply to the Registrar in the prescribed form not less than six months before the examination, and must enclose with his application the following :—

- (a) A certificate from an Inspector of Schools or the head of the educational institution in which he has taught last that he has served continuously as a teacher for 18 months in one or more institutions recognised by the Board of High School and Intermediate Education, U. P., or the University of Allahabad, and that before the commencement of such service he had passed the Intermediate or the Commercial Diploma Examination of the Board of High School and Intermediate Education, U. P., or an equivalent examination, or the B.A., or B.Sc. Examination of the Allahabad University or some other University recognised by Law in British India.

Provided that a teacher may appear at the Final M.A. Examination if, after having passed the Previous Examination he serves continuously as a teacher in one or more of the above mentioned institutions during the 12 months immediately preceding the examination at which he wishes to appear and produces a certificate from one of the above-mentioned persons to the effect that on the date of the examination he will, unless his period of services has been interrupted, have completed a full period of one year's teaching.

(b) A certificate of character from an Inspector of Schools or the Head of the educational institution in which he has taught during the period prescribed in clause (a) of this Ordinance ;

(c) The prescribed fee for the examination ;

(d) The enrolment fee of Rs. 10 for becoming a member of the University.

3. The examinations to which candidates may be admitted under these Ordinances shall be the same as those for the Associated Colleges.

4. Candidates shall not be allowed to offer Science subjects for the Degree Examinations, unless they satisfy the Academic Council that they have completed a course of instruction in Practical Science in an institution approved by the Faculty of Science during the year preceding the examination.

5. Where a candidate applies for permission to appear at a University Examination as an External student, and his application is rejected, Rs. 8 out of the Rs. 10 paid under Ordinance 2(d), shall be refunded to him.

RESIDENCE OF STUDENTS OF THE UNIVERSITY.

Ordinances made under Section 35

1. The residence of all students of the University shall be within ten miles of the Convocation Hall.

2. A student who is attached to but does not reside in a College or Hostel of the University, shall be designated an attached student.

3. The number of students attached to a College or Hostel shall not exceed 30 per cent. of the total number of students resident therein.

4. An attached student of the University shall reside with a parent or with a guardian approved by the Principal of his College or by the Warden of his Hostel, as the case may be, or in lodgings approved by the Residence, Health and Discipline Board.

5. Students who are not residing in a College or Hostel or are not attached thereto shall be designated unattached students.

6. No student shall be admitted to the University as an unattached student, unless he is studying a post-graduate course and is over the age of 22 years.

7. A student who makes a false statement regarding the conditions of his residence or omits to report his removal from within the ten mile limit, or the change of residence of his guardian shall be liable to removal from the University.

FEES PAYABLE BY STUDENTS OF THE UNIVERSITY.

Ordinances made under Section 5 (12). 1. Fees payable to the University are classified under the following heads :—

- (a) Fee for registration of application for admission.
- (b) Admission fee.
- (c) Class fee.
- (d) Athletics fee.

(e) Laboratory Caution Money.

(f) Examination fee.*

(g) †Fee for Tutorial Instruction.

2. The Fee for Registration of an Application for Admission shall be Re. 1 (one).

3. The Admission Fee shall be Rs. 4 (four).

4. The Class Fee for courses for a Bachelor's degree in Arts, Science, and Commerce shall be at the rate of Rs. 12 (twelve) a month and for a Bachelor's degree in Law at the rate of Rs. 15 a month for nine months in the year.

5. The Class Fee for courses for a Post-graduate degree in the Faculties of Arts and Science shall be Rs. 15 (fifteen) a month for nine months in the year.

6. Fees for each month will be received up to the 15th of the month for which the fees are due, on dates which will be fixed from time to time.

Monthly payment of fees.

7. A student, if admitted after the beginning of the session, shall pay the admission fee and the University dues from the commencement of the academic year up to and including the fee for the month in which he is admitted.

Payment of admission and University fee.

8. An additional fee of one anna shall be charged for every day that a student is in arrears in payment of his monthly class fee.

Delay fine.

* NOTE.—Examination fees are dealt with on page 2.

† The apportionment of the amounts of fee debitable to class instruction and to tutorial instruction will be decided by the Executive Council.

9. If the monthly class fee or any fine due from a student remains unpaid on the last day of the month in which it is due, the student's name shall be removed from the Register of Students of the University.

10. A student, whose name has been removed from the Register for non-payment of dues may be re-admitted on payment of the fees mentioned in Ordinances 2 and 8 above.

11. Every student shall be entitled to a receipt for each sum paid by him into the University Treasury.

12. (1) In addition to his Class fee, a student attending laboratory classes in the Faculty of Science shall pay on admission Rs. 15 (fifteen) as caution money.

(2) The price of, or cost of repairs to any apparatus wilfully or carelessly destroyed or damaged by him will be recouped from the aforesaid caution money. If the caution money falls short of the price or cost of repairs of such apparatus, the deficit shall be met by the student.

(3) The Head of each Department of the Faculty of Science shall submit to the Registrar during the first fortnight of each session a list of all students whose deposit has been decreased by payment for breakages, and the Registrar shall then call on such students to make up their caution money again to Rs. 15 (fifteen).

(4) The unexpended balance of a student's caution money shall be returned to him on the completion of his course of study at the University.

13. Removal from a College or Hostel for failure to pay dues will entail removal from the Register of the University.

14. An annual subscription for Rs. 6 shall be realized, from each student to be distributed among the Athletic Association, University Union and other University associations and societies.

15. Persons desiring to pursue original research may be admitted as research students to any of the University Laboratories upon the following conditions:—

(1) Application for admission as research students must be made to the Head of the Department concerned ;

(2) Graduates and advanced students will be charged a fee of Rs. 120 for the session ; if admitted for any shorter period than three months they will be charged Rs. 36.

16. The University reserves to itself the right to revise the fees at any time, whether in the case of new students or those who have already begun their course.

ADMISSION AND REGISTRATION OF STUDENTS OF THE UNIVERSITY.

1. Applications for admission shall be made to the Registrar in the prescribed form (see **Appendix**) and be accompanied by the fee for registration as an applicant for admission. The fee for registration will not be returned, whether or not the applicant secures admission to the University.

2. All applications shall be forwarded by the Registrar to the Admission Board, which shall decide whether the applicant fulfils the qualifications for admission prescribed by the Act and the Ordinances, and in consultation with the Heads of the Departments of Teaching concerned may order his admission as a student of the University.

3. On receipt of the order of admission the student shall present himself at the office of the Registrar to receive his admission card of enrolment as a student of the University and pay the admission fee.

4. Students are required to show their card of enrolment as members of the University to the Teachers of the University concerned, so that their names may be placed on the class registers of the courses for which they have entered.

ADMISSION OF STUDENTS INTO ASSOCIATED COLLEGES.

1. A student when applying for admission to an Associated College shall bring with him a certificate as to his conduct, signed by the Head of the institution in which he was studying during the year previous to his joining the college.

Ordinances made
under Section 26 (1)
(d).

Provided that a student who seeks admission as a private student shall in lieu thereof furnish to the Principal of the college, in which he desires to prosecute his studies, evidence of good conduct.

2. A student shall be recognised as a member of a college as soon as he has been accepted by the Principal and has paid the fee demanded by the college.

3. No student shall be allowed to migrate from one college to another without a leaving or transfer certificate in the form prescribed.

4. If during an academical year a student desires to leave the college of which he has become a member and to join another college, he shall :—

(1) give notice of his intention to leave :

(2) make payment of all college fees due up to date, and unless exempted, as next hereinafter provided, pay a further sum of Rs. 10 ; and

(3) refund whatever scholarship or bursary has been paid to him from college funds, if required by the college to do so.

Provided that when it is proved to the satisfaction of the Principal of the college from which the student wishes to migrate that—

(a) the parent or guardian with whom the student has been residing is transferred to another district, or

(b) a change of residence has been recommended by a qualified medical practitioner,
the Principal shall remit the additional sum of Rs. 10 prescribed by the last preceding Regulation.

5. When a student has made all payments required by these Regulations, the Principal shall grant a transfer certificate in the form prescribed.

6. Except with the permission of the Principal of the College of which the student is a member, a student shall

be refused admission into a college situated in the same city or district as the College from which his transfer certificate was issued.

7. A student, who owing to his failure at a college terminal examination has not been allowed promotion, shall not be admitted into a higher class in another college.

8 (1) When a student has been guilty of grave misconduct, or of persistent idleness, the Principal of the college at which such student is studying may, according to the nature and gravity of the offence—

(a) expel,

(b) rusticate, or

(c) disqualify such student from appearing at the next ensuing examination.

(2) No student who has been so expelled shall be admitted into another College without the permission of the Principal of the aforesaid college; and no student who has been so rusticated shall be admitted into another college within the period of his rustication.

RESIDENCE AND CONDUCT OF STUDENTS OF ASSOCIATED COLLEGES.

1. Provided that accommodation is available, every undergraduate student shall reside in a hostel maintained by a College or in a Hostel recognised by the Council of Associated Colleges or with a parent or guardian.

NOTE:—The term “guardian” means and includes—

(1) a guardian appointed under the Guardian and Wards Act, or a guardian appointed by the Court of Wards;

- (2) a relative of mature age, if the student has no parents living or if no guardian has been appointed under the Guardian and Wards Act or by the Court of Wards ;
- (3) a person declared in writing by the student's parent or, if he has no parent living, by the person, described in (1) above to be his guardian ;
- (4) If the student has no parent, near relative or guardian as above, a person approved by the Principal of his college.

2. If no room is available in a college or hostel, the Principal of his college may permit a student to live in lodgings.

Provided the keeper of the lodgings undertakes (a) to reserve the lodgings for college students, (b) to permit inspection at any time by the Principal or Principals concerned and by any persons deputed by the Executive Council and (c) to abide by their requirements regarding supervision.

3. No student shall be required to attend religious instruction or religious observance in the hostel against the wishes of his parent or guardian.

4. The manager or secretary of a hostel, who desires to have his institution placed upon the list of Recognised Hostels, shall apply to the Executive Council, through the Registrar, sending a copy of the rules of the institution together with a sketch plan of the buildings and grounds.

5. The Executive Council after communication with the Council of Associated Colleges and after satisfying

itself that due provision has been made in the rules for the proper management of the institution, shall arrange for an inspection of the institution.

6. The Executive Council after consideration of the report of the inspection, shall inform the manager or Secretary whether his institution can or cannot be placed upon the list of Recognised Hostels; and, in the event of the application being refused shall communicate the reasons for refusal.

7. A Recognised Hostel shall be open to inspection at any time by the Principal of a college who has students residing therein, and by any person deputed by the Executive Council to visit it.

8. A Recognised Hostel shall be required to maintain and to produce for inspection, when called for, an admission register, a register of attendance and a conduct register.

9. The manager shall at once report to the Registrar any alteration in the rules of the hostel for the confirmation of the Executive Council, and the Council shall thereupon notify the Principal of a college whose students reside therein of the proposed changes and shall consider his opinion before confirming them.

10. The Principal of a college shall satisfy himself that the management of a Recognised Hostel in which students of his college reside is maintained in accordance with the conditions under which it received its recognition, and shall report to the said Council if it is not so maintained.

11. Students expelled from colleges shall not be admitted to any Recognised Hostel or approved lodgings.

12. Students who have been rusticated shall not be permitted to reside in a Recognised Hostel or approved lodgings during the period of their rustication.

13. Before cancelling recognition of a hostel the Executive Council shall communicate with the Council of Associated Colleges, and shall inform the manager of the hostel of the grounds on which it considers it necessary to withdraw the recognition granted. The Council shall consider the written explanation, if any, that may be furnished by the manager within 14 days of its communication made to him, and may then cancel the recognition or pass such other order as it deems fit.

Ordinances for Admission to various Examinations.

GENERAL.

1. In this chapter the expression, "a regular course of study," means attendance at such percentage of lectures and other teaching in the subject or subjects for the examination at which a candidate intends to appear, and at such other practical work (such as work in a laboratory) as is required by any ordinance, regulation or rule in force for the time being in the University; and a "regular course of study in an associated college" means such a course in a college associated up to the standard of the degree which a candidate wishes to take, and teaching the subjects selected by him for his examination for that degree.

2. Where there are two examinations for any degree or diploma, such as a Previous and Final examination, and there are two or more alternative courses for such a degree or diploma, a candidate for the degree or diploma must take the same course in the Final examination as he has taken in the Previous Examination, provided that, if there are two examinations, an examination for honours and an examination for a pass, in the same subject or subjects, a candidate who has passed the previous examination with honours may take the pass course for the final examination; but a candidate who has not passed the previous examination with honours cannot take the honours course for the final examination.

***General ordinances for admission to under-graduate classes.**

1. Students who have passed the Intermediate Examination of the Board of High School and Intermediate Education of the United Provinces, or of any University in British India incorporated by any law for the time being in force, or any examination recognised by the Academic Council as equivalent thereto, may be admitted to the under-graduate classes of the Teaching University or of the Associated Colleges.

General ordinances for admission to post-graduate classes.

1. Any graduate of the University or of any other University in British territory recognised by the law of the place in which it is situated, may be admitted to the

* Accepted by the Faculty of Commerce and Economics subject to such restrictions as the Faculty deems it fit to impose from time to time.

- (b) Mathematics
- (c) Philosophy.
- (d) Economics.
- (e) History.
- (f) Geography.

Ordinances for the Master of Arts Examination.

1. A candidate who after taking his degree has completed a regular course of study in the teaching University, or in an Associated College for one academical year, shall be admitted to the Previous Examination for the degree of Master of Arts.

2. A candidate who after passing the previous examination has completed a regular course of study for not less than one academical year in the Teaching University, or in an associated college, shall be admitted to the Final Examination for the degree of Master of Arts.

3. The examination for the degree of Master of Arts shall consist of two parts: (1) the Previous Examination, (2) the Final Examination.

4. The subjects of examination shall be the following:—

- (1) Languages.
- (2) Mental and Moral Science.
- (3) History.
- (4) Mathematics.
- (5) Economics.

5. The examination in Languages shall be in English or in one of the following classical languages, *viz.* Sanskrit, Arabic, Persian, Greek, Latin or Hebrew; or Hindi, Urdu, French, German or Italian.

6. The examination in any Language, other than Sanskrit, shall include the language, literature and history of the country to which it belongs.

7. The examination in Sanskrit shall include the Sanskrit language, literature or philosophy and early Indian history relating thereto.

8. The examination in Economics shall include the Theory of Economics, the scope and method of Economics, Currency and Banking, the Theory of International Trade and Foreign Exchanges, Socialism and Trade Unionism, the Structure and Administration of an Indian Province, together with a detailed enquiry into Indian economic conditions.

DOCTOR OF LETTERS.

1. Any Master of Arts of a University established in India by an Act of the legislature, may at least three years after he has taken the M.A. degree, be admitted to the examination for the degree of Doctor of Letters.

2. The examination will be entirely *viva voce*, based chiefly on an original thesis offered by the candidate, at least six months before the annual meeting of the Academic Council, upon any subject comprised within the Faculty.

3. A candidate who has been admitted to the examination for the degree of Doctor of Letters shall pay to the University, through the Registrar, the sum of rupees two hundred (Rs. 200) for the diploma of the said degree.

4. Every candidate, who intends to supplicate for the said degree, shall communicate his intention to do so to the Registrar, and also the special subject chosen by him

for the original thesis. No application for admission to the said degree will be entertained, unless it is supported by two members of the Faculty or two Doctors of the University, who shall have testified that the applicant is a fit and proper person to supplicate for the degree. The communication shall be laid before the Faculty of Arts. If the application is approved, the Faculty shall appoint a Board of three members, who, if so required, shall advise the candidate as to the amount of knowledge and research required of him.

5. When the supplicant has prepared his thesis, he shall forward it to the Registrar for submission to the aforesaid Board, stating therein what part of it he himself considers original, and what authorities he has utilised in preparing it.

6. The Board aforesaid shall proceed to examine the said thesis with a view to determining its value and importance. If, in the opinion of the Board, the thesis evinces sufficient merit and research, they shall, through the Registrar, instruct the candidate to present himself for a *viva voce* examination at a date, time and place to be fixed by the Vice-Chancellor in consultation with the members of the Board.

7. If, after the *viva voce* examination, the Board are satisfied that the candidate has really worked on original lines and is conversant with the subject, and is a fit and proper person for the degree, they will make a recommendation to that effect to the Faculty of Arts.

8. Such recommendation shall be laid before the next meeting of the Faculty, and if approved by it, shall be

submitted through the Academic Council to the Executive Council, along with other motions for the conferment of degrees under Statute 24 of the Allahabad University Act, 1921.

Ordinances for the Bachelor of Science (Pass) Examination.

1. Courses of study for the B.Sc. Pass degree shall extend over a period of two academic years, and the degree examination shall be held at the end of the second academic year.

2. Candidates shall be required before presenting themselves for the degree examination to have resided in a college, or under conditions laid down for the residence of students for not less than 75 per cent. of the number of days during which the University is in session, in each academic year, unless the Executive Council decides for sufficient reason to accept a lower percentage in exceptional cases.

3. Every candidate shall be required to pass in either of the following groups of subjects :—

(a) Physics, Chemistry, and Mathematics ;

(b) Chemistry, Botany, and Zoology ;

provided that no candidate shall be allowed to take any subject, unless he has passed an examination in the corresponding subject in the Intermediate, or any other examination recognised as qualifying for admission to a degree course.

4. A candidate may, at his option, take General English as an extra subject.

The marks obtained by the candidate shall be counted towards his aggregate, and if he passes in General English, this fact will be indicated in his diploma.

5. Students who are reading for a Pass degree may, on the recommendation of the Head of the Department concerned, be transferred by the Dean to the Honours course at any time within the first three months of the first year of study.

Ordinances for the Bachelor of Science (Honours) Examination.

1. Courses of study for the B.Sc. (Honours) degree shall extend over a period of three academic years, and there shall be an examination at the end of the third academic year.

2. Candidates shall be required, before presenting themselves for the Degree examination to have resided in a College, or under conditions laid down for the residence of students, for not less than 75 per cent. of the number of days during which the University is in session, in each academic year, unless the Executive Council decides for sufficient reason to accept a lower percentage in exceptional cases.

3. There shall be the following Honours Schools in the Faculty :—

- (1) Physics, (2) Chemistry, (3) Botany, (4) Zoology,
(5) Mathematics.

4. Every candidate for the degree of B.Sc. Honours shall, in addition to his Honours or principal subject, be required to pass an examination in each of two subsidiary subjects. The two groups of Mathematics should count as two subsidiary subjects.

5. The subsidiary subjects, which may be taken along with a particular principal subject, will be determined by the Dean in consultation with the Heads of Departments concerned.

6. The examination in the subsidiary subjects may be taken at the end of the second year, and shall be identical with the examination for the B.Sc. Pass degree in those subjects.

7. Candidates who are reading for an Honours degree may, on the recommendation of the Head of the Department concerned, be transferred by the Dean to the Pass Course at any time within the first six months of the first year of study.

8. A candidate for an Honours degree who fails in one or both of the subsidiary subjects at the end of the second year, may appear again at the end of the third year in the subject or subjects in which he has failed.

9. A candidate for an Honours degree who attains the necessary standard in his subsidiary subjects, but who fails to attain the Honours standard in his principal subject, shall be allowed to present himself for re-examination in that subject at the end of the next year, and, if successful, shall be given an Honours degree, but without class.

10. Candidates who have failed to obtain Honours may, if they attain the prescribed standard, be recommended for a pass degree.

Ordinances for the Master of Science Examination.

1. A candidate who after graduating in Science has completed a regular course of study in the teaching Uni-

versity, or in an Associated College, shall be admitted to the Previous examination for the degree of Master of Science at the end of the academical year in which he has completed such course of study, but if he does not then appear at the examination, he cannot be admitted to a subsequent examination in the same subjects, unless during the academical year at the end of which such examination is held, he has completed a further regular course of study for the examination.

2. A candidate who, after passing the Previous examination has completed a regular course of study in the University, or in an Associated College, shall be admitted to the Final Examination at the end of the academical year in which he has completed such course of study; but if he does not then appear at the examination, he cannot be admitted to a subsequent examination in the same subjects, unless, during the academical year at the end of which such examination is held, he has completed a further regular course of study for the examination.

3. The examination for the Degree of Master of Science shall consist of two parts—(1) the Previous Examination (2) the Final Examination.

4. The examination shall be partly by means of paper and partly practical. In Mathematics the examination shall be by papers only.

5. The subject of examination shall be one of the following:—

- (1) Mathematics.
- (2) Physics.
- (3) Chemistry.
- (4) Zoology.
- (5) Botany.

DOCTOR OF SCIENCE.

1. A candidate for the degree of D.Sc. must be either—

- (a) a M.Sc. or M.A. of the Allahabad University of at least three years standing, or
- (b) a M.Sc. or M.A. of at least three years standing of any other Indian University recognised by the Allahabad University who has been resident within the territorial limits of the Allahabad University for the three years immediately preceding his application.

2. Every candidate who intends to supplicate for the degree of D.Sc. shall communicate to the Registrar, (a) his intention to do so, (b) the special subject chosen by him for a thesis, (c) a certificate signed by two D.Sc.'s of the University, or by two members of the Faculty of Science testifying that the applicant is a fit candidate for the degree of D.Sc.

3. If the application is approved by the Faculty of Science, the Registrar shall inform the candidate of the fact. The candidate will then submit his thesis (three printed or type-written copies) together with a fee of Rs. 200 (or such uniform fee as may be prescribed for the degree in the Faculties).

4. The candidate must indicate how far his thesis embodies the results of his own researches, and in what respects his investigations appear to him to advance scientific knowledge ; he is invited to submit in support of his candidature any paper, which he may have published independently or conjointly.

5. A candidate may not submit as his thesis any paper on which a degree has already been conferred on him by this, or any other University, but he shall not be precluded from incorporating work, which he has already submitted for a degree, in a thesis covering a wider field, provided that, he shall indicate the extent of the work so incorporated.

6. The thesis submitted must be satisfactory, as regards literary presentation, and, if not already published, must be in a form suitable for publication.

7. The fitness of the candidate for the degree shall be judged on the thesis. The examiners will satisfy themselves that the thesis embodies the results of the candidate's original researches, and that these researches constitute a material addition to scientific knowledge.

8. No fee shall be charged to the candidate in respect of the diploma of the degree.

9. The thesis submitted for the degree of D.Sc. shall be on some branch of the following Sciences :—

(1) Mathematics.

(2) Physics.

(3) Chemistry.

(4) Zoology.

(5) Botany.

Ordinances for the Licentiate of Teaching Examination.

1. The examination shall be both in the Theory and in the Practice of Teaching. In the Theory of Teaching the examination shall be conducted by means of papers.

2. Every candidate shall be required to have passed through a practical course of Physical training and shall further, in the presence of at least two Examiners appointed by the Examination Committee, give satisfactory evidence of ability to manage class. He shall give two lessons in subjects embraced in the curriculum of high schools, one of which at least, in the case of Graduates in Arts, shall be on the English Language, and in the case of Graduates in Science, in Mathematics, Nature Study, or Physics and Chemistry.

3. The candidates shall receive due notice of the subjects in which they will be asked to give a lesson.

4. Candidates who desire to offer evidence of special fitness for teaching one or more branches of the high school curriculum, may submit their names for special examination in the same. An indication of the special qualifications for teaching one or more such branches will be given in the diploma of successful candidates.

5. In the case of a candidate who presents himself for special examination in English, History, Geography, Mathematics or Classical Language, the second lesson delivered before the Examiners shall be on one of these subjects offered by him. The fitness of a candidate for special distinction in Nature Study, Physics and Chemistry or Manual Training shall be tested by an examination of the records made or practical work done by him during his period of training.

6. Licentiates of Teaching may, at any subsequent examination, appear for special examination in theory and practice in any additional subject, provided they

attend a recognised institution for at least 50 working days for each such subject.

7. The fee for each additional subject shall be Rs. 10.

8. The Examination in the practice of teaching shall be conducted at the Training College at which the student was trained, and the Examiner shall also take into consideration the record that has been kept at the College of the work done by the student during the course of training.

9. Candidates who fail in the examination in the Theory of Teaching, may present themselves for re-examination therein at a subsequent examination, without attending a further course, at a College associated in the Branch of of Teaching, provided that they produce satisfactory evidence that, in the interim, they have been teaching in a recognised institution. The re-examination fee shall be Rs. 15.

Ordinances for the Bachelor of Laws Examination.

1. A candidate who after graduating either in Arts, in Science or in Commerce completes a regular course of study in the Teaching University, or in a law class in an associated college, for one academical year, shall be admitted to the Previous Examination in law.

2. A candidate who after passing the Previous Examination has completed a regular course of study in the Teaching University, or in a Law Class in an associated college, for one academical year, shall be admitted to the Examination for the degree of Bachelor of Laws.

3. The Examination for the degree of Bachelor of Laws shall consist of two parts—(1) the Previous Examination and (2) the Final Examination.

4. Every candidate for the Previous Examination shall present himself for examination in the following subjects:—

- (i) Roman Law,
- (ii) The Law of Contracts,
- (iii) The Law of Easements and Torts,
- (iv) The Law of Evidence,
- (v) Criminal Law and Procedure,
- (vi) Constitutional Law,

and the examination shall be conducted by papers.

5. Every candidate for the examination for the Degree of Bachelor of Laws shall present himself for examination in the following subjects:—

- (i) Civil Procedure including Principles of Pleading and Limitation ;
- (ii) The Law relating to Land Tenures, Rent and Revenue in the United Provinces of Agra and Oudh ;
- (iii) Hindu Law, with the statutory modifications thereof ;
- (iv) Mohamedan Law, with the statutory modifications thereof ;
- (v) The Law relating to Transfer of Property including the Principles of Equity in so far as they relate to the subject ;

(vi) Equity with special reference to the Law of Trusts and Specific Relief ;

(vii) Jurisprudence ;

and the examination shall be conducted by papers.

6. The list of candidates who have passed, either in the Previous or in the LL.B. Examination shall be arranged in two classes. A candidate who, out of the aggregate marks obtainable, obtains not less than 70 per cent. shall be placed in the first class, and a candidate who obtains not less than 50 per cent. shall be placed in the second class, provided that, no candidate shall be placed in either class, who does not succeed in obtaining a minimum of 30 per cent. of the marks allotted to each paper.

DOCTOR OF LAWS.

1. No special examination shall be held, but any person who has obtained the Degree of Master of Laws or has passed the examination for Honours in Law on or before the 1st November, 1906, may be admitted to the Degree of Doctor of Laws without examination, provided—

(a) that two members of the Faculty of Law or two Doctors of Laws certify to the satisfaction of the Academic Council that since obtaining the Degree of Master of Laws or since passing the examination for Honours in Law under the regulations in force on or before the 1st November, 1905, he has practised his profession with repute for at least five years and that in habits and character, he is a fit and proper person for the degree of Doctor of Laws ; and

- (b) that he has written an essay approved by the Faculty of Law, or by a Sub-Committee thereof on some subject connected with Law or with Jurisprudence.

BACHELOR OF COMMERCE.

1. The examination for the Degree of Bachelor of Commerce shall be open to—

- (i) All students who have passed the Intermediate Examination of the Allahabad University, or of the Board of High School and Intermediate Education, U.P., or the Intermediate Examination of any other University established by legislature.
- (ii) All students who have passed the examination for a Commercial Diploma of the Allahabad University, or Intermediate Examination in Commerce of the Board of High School and Intermediate Education, United Provinces.
- (iii) All students who have passed the Previous Examination in Economics for the degree of the Master of Arts of the Allahabad University.
- (iv) All students who have passed the examination for the degree of Master of Arts in Economics of any other University.
- (v) All students who have passed the Intermediate examination for the Degree of Bachelor of Commerce of the University of Bombay.

(vi) Any person to whom the Executive Council, by special grace, has granted permission to appear :

2. The degree shall be taken in two Parts, Part I at the end of the second year, and Part II at the end of the third year.

3. Students who have passed the Master of Arts, Bachelor of Arts (with Economics) or the Diploma of Commerce of the Allahabad University, or the Intermediate Examination in Commerce of the Board of High School and Intermediate Education, United Provinces, and also students who can produce a certificate of having passed the Intermediate Bachelor of Commerce of the Bombay University will be exempted from taking the 1st Year's Bachelor of Commerce.

APPENDIX

Form of Application for Admission to the Teaching University.

APPLICATION.

To

THE REGISTRAR OF THE UNIVERSITY OF ALLAHABAD.

Sir,

I hereby apply to be admitted to the Teaching University of Allahabad. The fee of Re. 1 prescribed is forwarded herewith.

I am, etc.,

(Name to be written in full and clearly) _____

Address _____

Date of application _____

Particulars to be filled in by the applicant.

Name _____

Date of birth and age, in years and months _____

Name of father, his occupation and residence _____

Name and address of guardian _____

Religion _____

Caste, if any _____

Length of residence in the U. P. _____

Examination for which he proposes to study _____

Class which he wishes to join_____

Subjects which he proposes to take_____

Schools and colleges in which he has read_____

Subjects which he took at the last Examination_____

Examinations which he has passed entitling him to admission to the University (the name of the University and the year and the division in which he passed to be specified in each case).

Date of application_____

N.B.—The applicant must furnish with his application a copy of the entry regarding character in the leaving certificate from the last school or college, if any, in which he has studied. In the case of an applicant who has not studied in a school or college, he must supply other evidence in regard to conduct or character. In the case of a candidate coming from another University, he must produce a migration certificate from that University.

PART I.

TEACHING UNIVERSITY.

(INTERNAL SIDE).

TEXT-BOOKS AND SYLLABUS PRESCRIBED FOR THE EXAMINATIONS OF 1926.

B.A. EXAMINATION.

ENGLISH.

1st or General Section.

There will be two papers and a *viva voce*.

1st Paper.—An Essay on a subject of general interest ; maximum marks 50.

2nd Paper.—Candidates will be asked to write short essays on subjects connected with one of the following groups of books, and to answer questions on unseen passages ; maximum marks 35.

GROUP A.—1. Hammond—Stories of Scientific Discovery (Cambridge University Press).

2. Emerson—Representative Men (World's Classics).

3. Ray Lankester—Science from an Easy Chair, 1st. series (Methuen).

4. Asquith's Occasional Addresses (Macmillan).

5. Hardy—Far from the Madding Crowd.

GROUP B.—1. Casson—Ancient Greece (World's Manuals O. U. P.).

2. Arnold—Essays in Criticism (2nd series).
3. Ruskin—Sesame and Lilies.
4. Thompson—Introduction to Science (Home University Series).
5. Meredith—Ordeal of Richard Feverel.

GROUP C.—1. Huxley—Man's Place in Nature and other Essays (Everyman's Library).

2. Morley—Selections by Jha (Macmillan).
3. English Short Stories (Everyman's).
4. Quiller-Couch—The Art of Writing (Pocket edition, Cambridge Press).
5. Conrad—Youth.

3. *Viva Voce*—A test of general reading and command of the language. Maximum marks 15.

2nd or Special Section—

1st Paper—SHAKESPEARE.

Books *prescribed*—The Merchant of Venice; Hamlet.

For *general reading* in connection with these plays.

As You Like It; Macbeth.

Books recommended for *reference*:—

Lamborne—Shakespeare, the Man and His Stage (World's Manuals).

Raleigh—Shakespeare.

Dowden—Shakespeare's Mind and Art.

Bradley—Shakespearean Tragedy.

2nd Paper.—(1). Palgrave's Golden Treasury (World's classics). The following poems :—

Milton—Nos. 71, 77, 112, 113.

Keats—Nos. 166, 198, 199, 244, 255.

Shelley—Nos. 241, 259, 274, 275.

Tennyson—Nos. 323, 325, 327, 328, 329 and 331.

Browning—Nos. 340, 341, 342, 348, 349.

Arnold—No. 371.

(2) Wordsworth, Selections from Indian Library of English Poets (O.U.P.) Nos. 11, 18, 30, 32, 39, 48, 49.

3rd paper—Leslie Stephen's Johnson (English Men of Letters).

Selections from Boswell's Life (Chapman, Clarendon Press).

Selections from Stevenson—Dunn (Longmans).

Last Days of Pompeii by Lytton.

Books recommended for reference :—

Mair—(Home University Series).

Hudson—Manual of English Literature (Bell).

Saintsbury—History of English Literature.

Gosse—Modern History of English Literature.

Classical Language.

(a) *Sanskrit*.

Special Section—Paper I.—*Uttaracharita*.

Shishupalavadha I & II.

Paper II.—*Either* (a) (1) Sanskrit Gadyaratnavali, pp. 1—87.—Indian Press.

(2) Kavyadarsha—Dandin, Secs. I & IV—(Edited by M. Rangacharya, Madras).

The sections prescribed are those dealing with *Riti* and *Doṣa*.

or (b) Prashastis Nos. 1, 13, 14 (1st part), 17, 18, 32, 33, 35, 37, 38 and 71 as contained in Corpus Inscriptionum Indicarum, Vol. III. [Only for candidates offering Ancient Indian History.]

or (c) *Tarkasangraha* with *Dipika*. [Only for candidates offering Philosophy.]

General Section—Paper III.—Composition and Unseens.
Grammar—

Kale's or Keilhorn's Higher Sanskrit Grammar.

Vidyabhushana's Manual of Higher Sanskrit Grammar and composition.

History of Sanskrit Literature.—By Weber or Macdonell.

General questions on Grammar and on the History of Kavya literature shall be set in Paper I and one-third of the total number of marks in that paper shall be allotted to these questions.

For Unseens candidates are recommended to familiarise themselves with the language and style of the 'Epic' and 'Classical' periods by reading through portions of the Sank-

sipta Mahābharata, the Sanksipta Rāmāyaṇā, Venīsamhārā and the Dramas of Kālidāsa.

(Students should be taught to study these books by themselves with the help of a Sanskrit-English Dictionary.)

NOTE.—Sanskrit must be written in the Devanagari character.

(b) Arabic.

I PAPER—Prose	.. 40 marks	} 50 marks.
Grammar	.. 10 „	
II PAPER—Poetry	.. 35 „	} 50 „
History of Literature	10 „	
Figures of Speech, etc.	5 „	
III PAPER—Rapid Reading	.. 20 „	} 50 „
Translation from English into language	.. 30 „	
		150 marks.

Prescribed Course—

Paper I.—Prose.

Books prescribed are :—

- (i) Text—Selections in Arabic prose and verses approved by the Syndicate of the University, (Anwar Ahmadi Press, Allahabad).

Omit—Selections from

كتاب الشعر والشعراء and مقامات بديعي
add مقامات بديعي first 8 maqamas (Mujtabi Press, Delhi).

- (ii) Grammar—فصول النحو (up to the end of Khasyat Abwab) and هداية النحو

Questions on Grammar will be set in both the papers.

(iii) **Rapid Reading and Translation from English into Arabic.**

Book recommended for rapid reading—

خلاصہ آداب اللغة العربية (Published by Anwar Ahmadi Press, Allahabad).

NOTE.—*Arabic words must be written in the Arabic character.*

(c) **Persian.**

I PAPER—Prose	.. 40 marks	} 50 marks
	Grammar .. 10 „	
II PAPER—Poetry	.. 35 „	} 50 „
	History of Literature 10 „	
	Figures of Speech, etc. 5 „	
III PAPER—Rapid Reading	.. 20 „	} 50 „
	Translation from English into language 30 „	
		150 marks

Prescribed Course—

(i) **Text—Prose—**

Tarjama Tarikh Tabri, Vol. III, pages 292—296.

گفتار در بادشاهی شاپور ذوالاکنات

Akhlaq Jalali—تهذيب اخلاق II, III, IV and V, lumas.

Seh Nasr Zuhoori—نثر اول

Inshai-Abul Fazl—

- ۱ خطاب حضرت شاہنشاہی بہ شاہ عباس
- ۲ نامہ حضرت شاہنشاہی بہ شرفاے مکہ
- ۳ نامہ حضرت شاہنشاہی بدائیان فرنگ

Ain-i-Akbari—

- آئین کورنش و تسلیم - آئین بار و آئین آموزش -
 آئین جشن آرائی - آئین و زن مقدس و آئین دھنمونی -
 and عرفی (excluding up to the end of قافیہ سنجان and
 دل خرسند بیا to یا از لی الظہور poems of Faizi from
 رباعیات فیضی (and)

Ruqaat Yaghma beginning with

- ۱ نامہ کوتاہ جامہ کہ خامہ بلند ہنگامہ
- ۲ بامدادان کہ دو بارش دربان
- ۳ خطرا امسال ازیر مرگہاے بے ہنگام
- ۴ پس از پدر و درے و آہنگ کومان
- ۵ روز دلخوش کہ بکوی تو
- ۶ خاکساران نوازا امروز از آغاز بام
- ۷ سرکار سا - ترا بندہ ام

Tarikh Malcolm—Vol. I, pages 38—44, from

سبب افسانہ ہندوستان شد to ہو مزاجن فرسی
 ہفتہ سال

Poetry—Khaqani—Qasaid beginning with

دل من پیر تعلیم است و من طفل زباندانش (1)
 کنون صد فلسفی فنیے فیروز پیش اسکانش up to
 نه چون جیپال... خاقانش (i) (Excluding the couplets)
 نعیم پاک . آبدستانش (iii) نماز مردہ... بیابانش (ii)
 زمین دایہ.. پستانش (v) میانے... سگ جانش (iv)
 صبحدم چون کله بندد آہ دود آسای من (2)
 چوں ... والای من (i) (Excluding couplets)

چشمہ صلب... اجزای من (ii)

[گرچہ ... استہزای من (iii)

عیداست و پیش از صبحدم مژدہ بخمار مآدہ (3)

سنت عشاق چیست برگ عدم ساختن (4)

Anwari—Qasaid beginning with

۱ اے قاعدۂ تازه ز دست تو کرم را

۲ جرم خورشید چو از حوت در آید بھمل

Urfi—Qasaid beginning with

۱ اقبال کرم می گزند ارباب ہم را

۲ دل من باغبان هشق وحیدرانی اگلستانش
 (omit اگر طفل دلم ... پستانش)

۳ چہرہ پرد از جہاں رخت کشد چوں بہ حمل

۴ صبحدم چوں درد مد دل صور شیون زای من

(omit شاہد عصمت ... لبہای من)

۵ عادت عشاق چیست مجلس غم داشتن

۶ سپیدہ دم چو زدم آستیں بہ شمع شعور

۷ اے مرتفع ز نسبت ذات تو شان علم

Qasni — Qasaid beginning with

- ۱ بگر دون قیرہ ابرے بامدادان بر شد از دریا
و ژان پس سر بر آورده ز جیب جامهٔ الا up to
- ۲ دوش بر گردون بسمے تابان شہاب آمد پدید
- ۳ ساقی بدہ رطل گراں ژان مے کہ دھقان پرورد
- ۴ کشودی زلف قیر آکیں جہاں را قیرواں کردی
- ۵ بنفشہ رستہ از زمین بہ طوط جوئبارہا

Khusru—Ghazals.

- ۱ اے ز خیال مابروں در تو خیال کے رسد
- ۲ جاں زتن بردی و در جانی ہنوز
- ۳ مدہ پندم کہ من در سینہ سوداے دگر دارم
- ۴ آتین تو دل بردن است اے چشم خلقم سوے تو
- ۵ اے چہرہ زیبایے تو رشک بتان آزی

Urfi—Ghazals.

- ۱ دلم بقبلہ اسلام مائل افتادہ است
- ۲ حرم جویاں درے رامی پرستند
- ۳ در چہن حور و شان انجمنے ساختہ افند
- ۴ عاشقان گر بدل از دوست غبارے داند
- ۵ خوہی در خور است حسرت توبہ گریستن

Naziri—Ghazals.

- ۱ ترا بکعبہ مرا کار بادل افتادہ است
- ۲ دوش بر سوز دل و سینہ بر اتم دادند
- ۳ کتم با بادہ بدہستی کہ سوداے دگر دارم
- ۴ بسمے اِلطاف و احسان کرد حیوانی چو دید از من
- ۵ بہ تسبیح و مصلّا کردہ ام میخانہ آرائی

Saib—Ghazals.

۱ سهل مشهور همت پيران با تدبير را
[Excluding couplets (i) شير را ...
and (ii) عقل دور ... طفل شير را]

۲ به دنيا ساختم مشغول چشم روشن دل را
۳ به نامرادی ما عشق مائل افتاده است
۴ قدح لبریز چون شد از شراب ناب می لرزد
۵ آنکه منع من مضمور ز صہبا می کود

Firdausi—Shahnama, Vol. I, pages 182—185
چو از کوہ - لشکر آراستن تو را نیان و ایرانیان
سوارے سرا فراز و کند آورا است up to بغروخت گیتی فروز

Nizami—Sikandarnama

جہاں کرچہ آرام گاہے خوش است
چو صبحم دماغ دو مغزی دهد up to

(ii) Grammar—مغزن الغوائد by M. H.
Nisiri, complete (Mission Press,
Allahabad).

NOTE.—Thorough knowledge of Persian Grammar
is expected.

(iii) Rapid Reading. First five Tabqas —

(Anwar Ahmadi Press) اخوان الصفا

NOTE.—A general sketch of the History of literature
with reference to the authors prescribed in the text
particularly, is expected.

For the History of Literature Sanadid Ajam, by M. H. Nasiri is suggested.

Students who offer Persian are required to have such knowledge of the Etymology of the Arabic language as will enable them to explain all Arabic words and phrases which may occur in the Text-books and in the book recommended for rapid reading in Persian.

NOTE—Persian words must be written in the Persian character.

(a) *Latin.*

The papers will be as follows :—

Paper I—CICERO : de Oratore I and II ; and Tacitus, Agricola, and Germania ; Unseen Prose.

Paper II—VIRGIL : Georgics ; Unseen Verse.

Paper III—See above.

Grammar recommended—GILDERSLEEVE'S Latin Grammar.

(b) *Greek.*

The papers will be as follows :—

Paper I—PLATO : Phædo ; and THUCYDIDES. Book I ; Unseen Prose.

Paper II—SOPHOCLES : Œdipus Rex, and Aristophanes, Clouds ; Unseen Verse.

Paper III—See above.

Grammar recommended—RUTHERFORD'S Greek Grammar.

(c) *Hebrew.*

Paper I—Pentateuch ; Unseen Prose.

Paper II—ISAIAH and PROVERBS ; Unseen Verse.

Paper III—See above.

Davidson—Introductory Hebrew Grammar (T. and T.
Clark, Edinburgh).

Modern European Languages

French

There shall be three papers :—

- I. Selected texts from Nineteenth Century French Literature with grammatical questions.
- II. (a) Outlines of the History of French Literature.
(b) Prescribed Text-books bearing upon a special period to be set from time to time.
- III. Unseen passages from French into English and English into French, together with a short French essay on a subject connected with the course.

Books prescribed :—

Paper I.—DUMAS : *Vingt Ans Après.*

BUY BLAS : Victor Hugo. (Heath, London.)

BERTHON : *Specimens of Modern French Verse*
(Macmillan).

Paper II.—Special period -- French Drama, Seventeenth Century.

CORNEILLE : *Cid.* (Macmillan).

MOLIER ; *Le Medecin Malgre Lui.* (Macmillan.)

Grammar recommended : French Grammar (Sonnen-
schein's Parallel Grammar Series).

N.B.—No History of Literature is prescribed, but "*Histoire de la littérature Française*," by Gustave Lanson [Hachette] and *History of French Literature* by Wright is recommended.

Mathematics.

(Same as for the B.Sc. Examination, *vide* pp. 120—23).

Philosophy.**PAPER I—****Either (a)**

(1) Fraser, Selections from *Berkeley*, 5th Edition, pp. 1 to 166, together with Fraser's Introduction.

(2) Hume's Enquiry concerning the Understanding.

or,

(b) Elementary Psychology as in the attached Syllabus.

SYLLABUS IN PSYCHOLOGY.

(1) The Problem, Data and Methods of Psychology. The relation of Psychology to Logic, Ethics and Metaphysics and its practical bearing on Education, Industry and Medicine. The branches of Psychology.

(2) Body and Mind. General nature of their connection. The Structure and Functions of the Nervous System. Dispositions.

(3) The Ultimate Modes of being Conscious, and their relation to one another. Principal Characters in the process of Consciousness. Teleological character of Mental Life. Levels of Consciousness. Elementary facts about the Unconscious.

(4) General Character of Sentient Consciousness. Sensation and Stimulus. Presentative and Affective Elements in Sensation. The distinguishable Characters of Sensation.

Descriptive Analysis of Light-sensations. Total and Partial Colour-blindness. Positive and Negative After-Images, Colour Mixture.

Analysis of Sound Sensations. General Characterisation of Taste, Smell, Cutaneous and Organic Sensations. The Weber-Fechner Law.

(5) Distinctive Characteristics of the Perceptual Process. The relation of Perception and Sensation. Differentiation, Assimilation and Retentiveness. Learning by Experience. Imitation. Formation of Habits. The Physiological Process in Perception. Illusions and Hallucinations. Perception and Apperception.

The problem of Spatial and Temporal Perception. The Perception of the External Reality and of the Embodied Self.

(6) Attention. Retention. Suggestion and Association. Memory. Elementary experimental work on Memory and the conclusions to be drawn from it.

(7) Characterisation of Ideational Process. Relation of Percept, Image and Idea. Train of Ideas. Comparison and Discrimination.

Analysis of the Process of Reasoning. Language and Thought. Natural Signs. Conventional Language.

The Social Factor in the Development of Self-Consciousness. Belief and Imagination. The Feeling-Tone of Ideas.

(8) General Nature of Emotions. Ultimate Qualitative Differences. Emotion and Organic Sensation. Emotional Dispositions or Sentiments. Growth and Development of Sentiments. Emotions as Primary and Derivative. Emotional Gestures. The Relation of Emotion and Instinct, and of Emotion and Expression.

(9) **Range of Conative Phenomena.** Different views of Conation. Random, Automatic Movements. Conscious Reflexes. Instinctive Movements. Nature and Origin of Instinct. Genetic relation of Instinctive Impulse to Volition. Desire and Aversion. Habit and Volition. Deliberation and Choice. Voluntary Decision.

Involuntary Action. Fixed Ideas. Self-Control. Attention and Volition. Habit and Conduct. The Psychology of Character. Volition and Character. Freedom.

Books recommended.

Wordworth's "Psychology—a study of Mental life" (Columbia University and S. Methuen.)

or,

Stout—Manual of Psychology, 3rd Edition (relevant portions).

PAPER II—

Either

(a) Ancient Ethics—

Plato, Republic, I—IV (Davies and Vaughan);

Aristotle: Ethics I—IV and X, Chapters 6—9 (Peters); the ancient authors to be studied in the Translations named.

The paper on Ancient Ethics will include passages from Plato and Aristotle for explanation.

An elementary knowledge of history of Moral Philosophy for the period covered by Chapter IV of Sidgwick's Outlines of the History of Ethics in the case of course (1), and by Chapter II in the case of course (2), will be required.

Books recommended—

Sidgwick's Outlines of the History of Ethics, or R. A. P.
Roger's Short History of Ethics.

A Critical History of Greek Philosophy by W. T. Stace
(Macmillan).

or,

(b) Ethics as in the attached Syllabus.

SYLLABUS.

Nature and Scope of the Science. Relation of Ethics
to other Sciences and Metaphysics.

Analysis of the principal Moral Concepts, *e.g.*, Right,
Good, Duty, Obligation, Virtue, Merit.

Psychology of the Moral Life; Appetite, Desire and
Will; Motive and Intention. Conduct and Character.

Morality conceived as Obedience to Law. Theories of
a Moral Sense and of Moral Intuitions. Conscience.

Conception of a Moral End. Theories of the moral
end, as Pleasure, General Happiness, Perfection, etc.
Bearing of Evolution upon Theories of the Moral End.

Relation of Individual to Society. Justice and
Benevolence. Rights and Obligations. Social Institu-
tions, *e.g.*, the Family and the State. International
Morality.

Virtues and Duties, *e.g.*, Veracity, Temperance, Courage,
Humility, Unselfishness.

Moral Development and Progress: Conditions giving rise to change in Ethical Ideals. Comparison of Ethical Conceptions in Different Historical Periods.

. Problem of Human Freedom and Responsibility. Rewards and Punishment.

Books recommended for study in connection with the course:—Muirhead's *Elements of Ethics*; Seth's *Ethical Principles*; Mackenzie's *Manual of Ethics*.

The following text is prescribed to be read in connection with the course:—

Mill's *Utilitarianism*.

Economics.

There will be two papers. The following syllabus is prescribed:—

PAPER I.

Elementary Economic Geography of India.—The Physical features of India. Soil erosion and alluvial deposits. Soils and climates. Distribution of raw materials and occupations. Density of population.

Relations of town and country.—Interchange of products as transportation develops. Growth of towns. Absorption of rural industries; complementary growth of commercial farming. Towns as commercial and cultural centres.

Distribution of Industries. Distinction between Extractive and Manufacturing (Primary and Secondary) industries. Mining, Forestry, Fisheries. The Principal manufacturing industries. Dependence on transportation and storage.

Transportation.—Rivers, roads, canals, railways, Ports and Harbours. Ocean navigation. Trade routes. The principal commodities of commerce and their distribution. Short and long distance trade.

Charts and Graphs.—Representing simple Statistics.

Introductory.—Subject-matter of the Science. Its divisions and their interdependence. Economics a part of Sociology.

Methods.—Observation, induction, deduction, and verification, as applied in economic science. Schedules and curves. Statistical methods.

Simple Definitions.—*e.g.*, Wealth, Labour, Exchange, Money, Price.

Consumption.—Wants. Origin of new wants and interdependence of activities. Definitions of total and marginal utility. Law of diminishing utility. Gain of utility by exchange. Dependence of utility on time and place.

Law of Demand.—Demand schedules and curves. Elasticity of demand. Consumer's surplus. Fashions and customs with their effect on demand. Scale of wants. Family Budgets.

Exchange.—Theory of barter. Conditions of gain of utility by exchange. Definition of a market. Extent of the market.

Money.—Functions. Materials and their necessary qualities. Kinds of metallic money : standard and token. Minting. Monometallism. Bimetallism. Paper currency. Gresham's Law. Relation of circulation to prices. Metallic and paper currency of India. History since 1870. Paper Currency Reserve. Profits of coinage.

Banking.—The business of banks and the use of cheques. Clearing houses of London, Calcutta and Bombay. Creation of credit. Indian Banking. Organisation of credit in India. Need of connecting the various money markets.

Mechanism of Foreign Exchanges.—Bills of Exchange, Mint Par. Exchange quotations. The Exchange Banks. Gold Standard Reserve. Council Bills and "Reverse Councils."

Prices and markets.—Factory, wholesale and retail prices. Price fluctuations. Their relation to the inflation of credit. Index numbers. Effects of quick communication and the publication of statistics (of crops, etc.). Influence of speculation ; anticipation and future bargains. Dealers' and speculators' methods. Distinction between gambling and speculation.

PAPER II.

Production.—The factors and agents of production—land, labour, capital, and organisation (management and enterprise). Combination of the factors in varying proportions. Law of diminishing returns (in terms of produce). Laws of increasing expenses and of increasing real costs, Principle of substitution.

Land.—Its qualities. Space. Use of natural resources. Fertility. Sources of power. Climate.

Agriculture.—Various kinds of organisation. Different land tenures. Zamindari and Ryotwari systems. Present conditions. Disposal of the products of agriculture. Geographical redistribution of crops according to most favourable locality.

Estate Economics.—Permanent improvements of land, roads, wells, tanks and irrigation schemes, drainage, silos, farm buildings and fences. Consolidation of holdings. Improvements of seeds, of cultivation and rotations, and of breeds of draft cattle and milch cows. Creation of fuel and timber reserves, orchards, and cattle farms.

Estate management.—The landlord's work as organiser, teacher and director of his tenants. The finance of estate development, and business of management.

Co-operation.—Agricultural and urban ; the theory, and organisation, of credit, distributive, and purchasing societies. Co-operative production : its advantages and its weaknesses.

Labour.—Distinctive qualities. Skilled and unskilled. Division of labour. Conditions of efficiency of labour. Influence of social customs.

Capital.—Conditions of accumulation of capital. Fixed and circulating capital. Economic characteristics of machinery. Deterioration of capital goods. Depreciation of value ; obsolescence. Sinking Funds. Repairs. Insurance.

Organisation of Production.—Large and small scale production. Advantages and limitations of each. Relation to division of labour, machinery and plant, extent of the market, and cost of transportation. Supply schedules and long period cost of production curves. Laws of increasing returns and of decreasing costs. Constant returns and constant costs. Decreasing costs due to inventions and to specialisation in the use of the factors of production. Types of organisation of the agents of production, Localisation of industries. Utilisation of bye-products.

Balancing of Supply and Demand.—Temporary equilibrium of supply and demand. Short and long periods. Equilibrium of normal demand and supply

Distribution.—Balance of demand and supply for the factors of production. The principle of substitution. Equalisation of their marginal productivity as between the individual businesses of a single industry, and between different industries, in short and long periods. Mobility of the factors of production. Effects of introducing new methods, e.g., new processes, machinery, etc.

Rent.—Gross and net rent. The law of rent. Economic rent. Various forces determining it. Fertility and situations. Rent does not determine price. The extensive and intensive margins of cultivation. Expansion and contraction of cultivation. Effects of improvements in agriculture and in transportation on rents. The land revenue in India.

Interest.—Demand for and supply of capital. Differences between short and long term investments. The prevailing rate of interest dependent upon the amount

of capital set free for fresh investment in the period considered and on the extent to which it is mobilised. Mobility of capital between localities, between industries, and from less to more specialised forms of fixed capital. Gross and net interest. Tendency to equal returns on equally risky investments. The rate of return and the rate of interest.

Quasi-Rent.—Differences between the actual return on fixed capital (*i.e.*, quasi-rent) and the continuing cost of the fixed capital (*i.e.*, interest).

Wages and the Population Question.—General conditions affecting demand for and supply of labour. Birth and death rates. Positive and preventive checks. Indian famines and relief measures. Health and sanitation. Loss of labourer's time from sickness. Early marriage and the joint family. Long period equilibrium between marginal net product and cost of maintenance. Real and nominal wages. Apparent differences in wages. Mobility of labour. Migrations in India. Differences of wages in short periods. Their equalisation. Time and piece wages. Trade Unions (as in Marshall's "*Economics of Industry*")

Profits.—Normal Profits, as the reward of management and risk-taking, and Surplus Profits as the result of special advantages in time and place, and legal rights. Losses.

Monopolies.—Definitions. Determination of monopoly price in actual practice. Taxation by means of fiscal monopoly.

NOTE.—(*The diagrammatic treatment of Maximum Monopoly Revenue, the problems of Monopolistic combinations, Unfair Competition and price discrimination, and the effects of taxing monopolies at fixed amount and in proportion to output and Problems of Government control are no longer included in this Course.*)

International Trade.—Brief statement of condition under which international trade arises, how it differs from internal trade, and the importance of each. Theory of free trade, and the conditions under which protection may be desirable. Foreign trade of India. Balance of trade. Home charges.

Taxation.—Canons of Taxation (as in Bastable) illustrated by Indian taxes. Direct and indirect taxation. The incidence of land revenue, income-tax and customs duties. The Indian tax system. Central, Provincial and Municipal taxation. Unearned increments and succession duties.

The National Income.—Causes of national wealth and progress.

Candidates are expected to be able to illustrate their answer by working out percentages, interest, discounts, dividends present value and ratios of Foreign Exchanges, Index Numbers, and are expected to be able to comprehend Balance Sheets.

N.B.—Students are recommended to visit factories and workshop, and to study the working of Co-operative Credit Societies and of local cottage industries.

Prescribed books : -

Morison : New Geography of the Indian Empire,
Clouston : Lessons on Indian Agriculture ; Chapman : Elementary Economics ; Moreland : Introduction to Economics
'or Indian Students.

Marshall : Elements of the Economics of Industry,
Carver : Distribution of Wealth, **Banerjea** : Study of Indian
 Economics, **Jevons** : Money, Banking and Exchange in
 India.

The following books may be consulted :—

Morrison : Indian Industrial Organisation, **Marshall** :
 Principles of Economics, **Withers** : The Meaning of Money,
 (Smith and Elder). **Palgrave** : Dictionary of Political
 Economy, **Imperial Gazetteer**, Vol. III, Vol. IV, Chapters
 6, 7 and 16. **The Indian Year Book** (Current number).
The Statistical Abstract for British India (presented to
 the Houses of Parliament, published by His Majesty's
 Stationery Office, London). ("India in 1920," etc.)
The Annual Report on the Moral and Material Progress
 of India.

History.

(1) Modern European History, from the Renaissance
 to 1914 one paper.

***ROBINSON AND BEARD** : Development of Modern Europe.
ROBINSON : Readings in European History, Vol. II.

***WARNER AND MARTEN** : Groundwork of English
 History, Parts II and III.

MARBIOTT : Remaking of Modern Europe.

POLLARD : Factors in Modern History.

ROBINSON : Western Europe.

***GRANT** : History of Europe.

POLLARD : History of England (H.U.L.).

MUIR RAMSAY : Expansion of Europe.

Ramsay Muir's Atlas and Bartholomew's Atlas,
and

(2) One of the following periods of Indian History :—

(a) Ancient India . . . One paper.

Cambridge History of India, Vql. I (relevant portions).

*SMITH, V. A. : Early History of India.

*RHYS DAVIDS : Buddhist India-

*AYYANGAR, S. K. : Ancient India.

*BHANDARKAR : Early History of Deccan (new edition).

VAIDYA : Mediæval India.

L. D. BARNETT, : Antiquities of India.

WATTE : Huien Thsang.

STEIN : " Rajatarangini." Introduction.

DALAL : History of India.

HAVELL : History of the Aryan Rule in India.

" Asoka " in the Heritage of India Series.

Or,

(b) Mediæval India (1000--1526 A. D.) . . . One paper.

ELLIOT AND DOWSON, Vols. II, III, IV (relevant portions)

*BRIGGS : Ferishtah.

AYYANGAR, S. K. : South India and Her Mohammadan
Invaders.

KING : History of the Deccan.

HAIG : Landmarks of the Deccan.

THOMAS : Chronicles of the Pathan Kings.

TODD : Annals of Rajasthan (relevant portions).

*TABQAT AKBARI—Translation by B. De (*BIBLIO-
THECA INDICA*.)

*LANE POOLE : Mediæval India.

KHUDA BAKSH : Orient under the Caliphs.

HAVELL : Aryan Rule in India.

Or,

(c) Mughal India, 1526—1761 . . . One paper.

SMITH, V. A : Akbar.

MORELAND : India at the Death of Akbar.

*ELPHINSTONE : History of India.

RUSHBROOK-WILLIAMS : Babur.

*BENI PRASAD : History of Jahangir, Chapter IV.

SAEKAR : Mughal Administration.

FOSTER : Early Travels in India.

OASEN : European Travellers In India.

Or,

(d) British India, 1748 to the present day . . . One paper.

*MUIR RAMSAY : Making of British India.

*LYALL, SIR ALFRED : Rise of the British Dominions in
India.

*ROBERTS, P. E. : History of India.

GRIFFIN : Ranjit Singh.

TROTTER : History of India under Queen Victoria,
1836—1880.

MARSHMAN : History of India.

STRACHBY : India.

*GARNER AND MARRIS : Civil Government.

Montagu-Chelmsford Report, Chapters II, III, IV
and X.

HINDI.

There shall be four papers.

PAPER I—Poetry : Texts.

Jayasi : Padmavata.

Surdas : Vinaya Patrika.

Tulsidas : Vinaya Patrika.

Keshavadas : Rama Chandrika.

(abridged. Nagari Pracharini Sabha, Benares).

Ayodhya Singh : Priya Pravas.

(CANTOS I—X.)

PAPER II—Poetry : Criticism.

Keshavadas : Kavi Priya.

Jaswant Singh : Bhasha Bhushan.

Bhusban : Shivaraj Bhushan.

Bhikharidas : Kavya Nirnaya.

PAPER III—MODERN PROSE AND DRAMA.

Ramadahn Misra : Sahitya Mimansa.

(Hindi Grantha Ratnakar Series).

Shyam Sunder Das : Sahityavalochan (Sahitya Ratna-
mala Series).

Harishchandra : Satya Harishchandra.

**PAPER IV—Translation from English and Sanskrit
into Hindi and Composition.**

URDU.

There will be four papers,

PAPER I.—Prose :—

- ۱ مقدمہ حالی
- ۲ نیرنگ خیال آزاد
- ۳ انتخاب از تہذیب الاخلاق
- ۴ انتخاب از دربار اکبري

'Akber, Khan-i-khana Abdul

Rahim, Raja Todar Mal (Published by
Anwar Ahmadi Press, Allahabad).

PAPER II.—Marsias :—

- ۱ جب رہنمیں سربلند علی کا علم ہوا
- ۲ بخدا فارس میدان تہورتھا حر
- ۳ آمد ہے کربلا کے نیستان میں شیر کی
- ۴ پھولا شفق سے چرخ پہ جب لالہ زار صبح
- ۵ فرزند محمد کا مدینہ سے سفر ہے
- ۶ کس شیر کی آمد ہے کہ دن کانپ رہا ہے
- ۷ فولان کی ضریح میں کسکا مزار ہے
- ۸ پیدا شعاع مہر کی مقراض جب ہوئی

PAPER III.—(A) Qasaid :—

Sauda :—

- ۱ اٹھکیا بہمن ودے کا چمنستان سے حمل
(قامطالع ثالث)

۲ اگر عدم سے نہو ساتھ فکر روزی کا
 ۳ سنگ کو کسکے لئے کرتا ہے پانی آسماں
 (تامطلع رابع)

۴ سوائے خاک نہ کھینچونگا منت دستار
 Zauq:—

۱ شبکو میں اپنے سر بستر خواب راحت
 (تامطلع رابع)
 ۲ زہے نشاط اگر کیجئے اسے تحریر (تامطلع ثالث)
 ۳ لاتا نیرنگ سے ہے رنگ نئے چرخ معیل
 (تامطلع ثالث)

۴ ہیں مرے ابلہ دل کے تہاشا گوہر
 Ghalib:—

۱ ساز یک ذرہ نہیں فیض چمن سے بیکار
 ۲ دھر جز جلوۂ یکتائی معشوق نہیں

Munee:—

۱ upto شب گذشتہ ہجوم بلا سے تھا میں دوچار
 omitting وہی ہے منکر حق - ہے جسے ترا انکار
 numbers 9, 10, 11, 12, 16, 17, 18, 19, 20, 22, 40,
 upto ہیں اہل بیان کیا کرو نہیں وصف and from

شکر بار

۲ upto رنگ لائی ہے نیا ابکی ہوائے گلزار
 گنجیفہ کھیلیں تو آئی نہیں بازی نادار
 ۳ قلزم فیض سے کسکے ہوئے پیدا گوہر

(B) Ghazals:—

Sauda:—

- ۱ نسیم بھی ترے کوچہ میں ہے صبا بھی ہے
- ۲ توتہ ترے نگہ سے اگر دل حباب کا
- ۳ زخم کا دل کے ترو تازہ ہے انگور سدا
- ۴ شمع میں ہرچند ہے سر سے گذر جانے کی طرح
- ۵ کیا مچائی اُن نے میرے دل کے کاشانے میں دھوم
- ۶ بدلہ ترے ستم کا کوئی تجھ سے کیا کرے
- ۷ بولا وہ جسے تیری تصویر نظر آئی
- ۸ ہمارے کفر کے پہلو سے دیر کی راہ یاد آئی
- ۹ جھڑکی تو مدتوں سے مساوات ہو گئی
- ۱۰ اشک آنکھوں سے کب نہیں آتا

Meer:—

- ۱ سیر کے قابل ہے دل صد پارہ اُس نخچیر کا
- ۲ گل کو محبوب ہم قیاس کیا
- ۳ کوفت سے جان لب پہ آئی ہے
- ۴ گئے تھے سیر چمن کو اُتھکر گلونہیں تک جی لگا نہ اپنا
- ۵ اک موج ہوا پیچھا اے میر نظر آئی
- ۶ منہ تکا ہی کرے ہے جس تس کا
- ۷ جنوں نے تھاشا بنایا ہمیں
- ۸ نہیں وسواس جی گنوانے کے
- ۹ مہر کی تجھ سے توقع تھی ستمگر نکلا
- ۱۰ اے مرغ چمن صبح ہوئی زمزمہ سو کر

Nasikh:—

- ۱ مرا سینہ ہے مشرق آفتاب دباغ ہجراں کا
- ۲ یہ نور ہے روئے مہ جمیں کا کہ ہے خجل چاند
چودھویں کا -
- ۳ کیا بحر حسن کی ہے کمر پیچ و تاب میں
- ۴ کونسا خورشید آج اپنا چراغ خانہ ہے
- ۵ بیخظریوں ہاتھ دوڑاتا ہوں زلف یار پر
- ۶ مہندی سے ہے شعلہ قدم اس رشک پوری کا
- ۷ سیکڑوں آہیں کروں پر ذکر کیا آواز کا
- ۸ کافی بس اسکو نشہ ہے بوئے شراب کا
- ۹ نہیں ہے سبزہ خط عارض محبوب پرفتن پر
- ۱۰ ہمصغیر اس باغ کے کیسی ہوا ناساز ہے

Atash:—

- ۱ جب سے ہے دست یار میں ساغر شراب کا
- ۲ سرمہ منظور نظر تھیرا ہے چشم یار کو
- ۳ گل سے افروز مری نظرون میں ہیں خوشخو کاٹتے
- ۴ الجھا ہے دل بتونکے کیسویں پر شکن میں
- ۵ اُلٹی ہیں صفیں گردن میں جب پیمانہ آتا ہے
- ۶ سرمہ لگا کے یار نے ترچھی نگاہ کی
- ۷ خدا یاد آگیا مجھکو بتونکی بے نیازی سے
- ۸ حلقہ دام ہے یہ نرکس فتان مجھکو
- ۹ روز و شب ہنگامہ برپا ہے میان کوئے دوست
- ۱۰ دیوانگی نے کیا کیا عالم دکھا دئے ہیں

Ghalib :—

- ۱ قفس میں ہوں گر اچھا بھی نہ جانے مرے شیون کو
- ۲ نقش فریادی ہے کسکی شوخئی تحریر کا
- ۳ ستائش گر ہے زاہد اس قدر جس باغ رضوان کا
- ۴ منظور تھی یہ شکل تجلی کو نور کی
- ۵ بسکہ دشوار ہے ہر کام کا آسان ہونا
- ۶ دل ہی تو ہے نہ سنگ و خشت درد سے بھرفہ
آے کیوں -
- ۷ ہمپر جفا سے ترک وفا کا کہاں نہیں
- ۸ درد مدت کش دوا نہ ہوا
- ۹ شمار سبچہ مطبوع بت مشکل پسند آیا
- ۱۰ دھر میں نقش وفا وجہ تسلی نہوا

Zauq :—

- ۱ میرے سینہ سے تیرا تیر جب اے جنگجو نکلا
- ۲ لکھئے اُسے خط میں کہ ستم اُٹھ نہیں سکتا
- ۳ جینا ہمیں اصلاً نظر آتا نہیں اپنا
- ۴ پاک رکھ اپنا دھاں ذکر خداے پاک سے
- ۵ الہی کس بیگنہ کو سارا سمجھ کے قاتل نے
کشتنی ہے -
- ۶ دریائے اشک چشم سے جس آن بہ گیا
- ۷ ہم ہیں اور سایہ ترے کوچہ کی دیواروں کا
- ۸ جو نہ رنگ رنج و ساقم کا یہاں نمود ہوتا
- ۹ اس تپش کا ہے مزا دل ہی کو حاصل ہوتا
- ۱۰ بعد مردن بھی خیال چشم فتان ہی رہا

M.A. EXAMINATION.**English Literature.**

There will be eight papers set, *viz.*, seven papers on the prescribed course and one on Essay. The Essay and the History paper must be taken in the Final Examination: of the other six papers, any four may be taken in the Previous Examination and the remaining two in the Final.

I. Literary and Social History of England.

✓ The following works are recommended :--

GREEN'S History of the English People.

JESSERAND (Literary History of English People, 3 vols.)

Walker—Literature of the Victorian Era.

SAINTSBURY'S History of English Literature.

II. The Drama (Typical Texts up to 19th Century).

MARLOWE: Edward II.

BEN JONSON: Every Man in His Humour.

FLETCHER: The Faithful Shepherdess

GOLDSMITH—The Good-natured Man.

SHERIDAN: The Rivals.

Or II(b) Literature prior to 1100 A.D.

COOK: First Book of Old English (Ginn & Co.).

WYATT: Old English Grammar.

III. Poetry (Typical Texts up to 19th Century).

CHAUCER: Prologue.

SPENSER: Faerie Queen, Bk. I.

DRYDEN: Absalom and Achitophel (Part I only).

POPE : Essay on Criticism.

MILTON : Paradise Lost, Books I and II.

Or III(b). Literature between 1100 and 1500 A.D.
with special study of Chaucer.

EMERSON'S Middle English Reader, Section I.

CHAUCEY : Prologue and Knight's Tale.

LANGLAND : Piers Plowman, Prologue.

„ Passus I.

IV. Prose (Typical Texts up to 19th Century).

SIDNEY : Apologie for Poesie.

SIR THOS. BROWNE : Religio Medici.

Selected English Essays (Chosen and Arranged by
W. Peacock :—The World's Classics). Bacon to Gold-
smith.

JOHNSON : Lives of the Poets (Arnold's edition published
by Macmillan).

V. Special Subject : Shakespeare, with a detailed study
of the following plays :—

As you like it ; Hamlet ; Cymbeline ; King John.

*Candidates will also be expected to show a general know-
ledge of the leading plays other than the above, and of the
present position of Shakespearean criticism.*

The following books are recommended :—

BRADLEY : Shakespearean Tragedy.

DOWDEN : Mind and Art of Shakespeare.

QUILLER COUCH : Shakespeare's Workmanship.

WILSON : Life in Shakespeare's England.

HARRIS : The Man Shakespeare.

SIR SIDNEY LEE : Life of Shakespeare (latest edition).

Shakespeare's England.

VI. Modern Poetry.

WARD : English Poets, Vol. IV. and V (Wordsworth, Coleridge, Byron, Shelley, Keats, Robert Browning, Matthew Arnold, Tennyson, Ingelow, Patmore, William Johnson (Cory), Meredith, Swinburne, Stevenson, Hilton, Francis Thompson and Rupert Brooke).

VII. Modern Prose.

Thackeray—Henry Esmond.

Ruskin—Crown of Wild Olives.

Hardy—Mayor of Castorbridge.

Gissing—Private papers of Henry Ryecroft.

English Critical Essays (World's Classics Series).

VIII. Essay.

N.B.—(1) Candidates must show a competent knowledge of the History of English Literature in all periods covered by the authors in their course.

(2) In papers II, III, IV, VI, VII, II (b) and III (b) questions on Unseen passages from similar texts shall be set and shall carry 30 marks.

(3) For candidates whose mother-tongue is English, questions in 'Latin in English' will be set in Papers II, III and IV in place of Unseen passages.

Sanskrit.**PREVIOUS EXAMINATION.**

The papers shall be arranged as follows :—

Paper I.—Sanskrit Literature—

- (a) Macdonell : Vedic Reader.
- (b) Manusmriti—Chaps. I—VI.
- (c) Māgha : Śisupālavadhā—Cantos III—V.

Paper II.—Pālī and Prākṛit Literature—

- (a) 1. Anderson : Pālī Reader.
- 2. Müller : Pālī Grammar.
- (b) 1. Bājaśekhara—Karpūramanjarī (H. O. Series).
- 2. (a) Prākṛit Grammar as in Vararuchi's Prakṛitaparakasha or Hemachandra's (Prākṛitavyākaraṇa).
- (b) Woolner's Introduction to Prakṛit.

Paper III.—Indian Philosophy—

- (a) Kāṭha Upaniṣad—with Shankara Bhāṣya.
- (b) Keśava Miśra : Tarkabhāṣā.
- (c) Sadānanda : Vedāntasūtra.

Paper IV.—Literary and Cultural History of India with outlines of the political events in Ancient India—

- 1. Imperial Gazetteer, Vol. II, Chapters I—IX.
- 2. Literary History of India, by Frazer (Library of Literary History, Vol. I).

In each paper questions will be set demanding a knowledge of the History of the branches of literature represented by the Text-books.

Book recommended :—

Macdonell's History of Sanskrit Literature.

FINAL EXAMINATION.

Candidates will be required to offer only one of the following groups :—

Three papers will be set on the books of each group. A fourth paper on Composition will be obligatory on all candidates.

In each paper questions will be set demanding a knowledge of the History of the branches of literature represented by the Text-books.

GROUP A.—VEDIC LANGUAGE AND LITERATURE.

Paper I.—*Vedic Literature*—

- (a) Peterson : Selected Hymns from the *R̥gveda* (Bombay Sanskrit Series, No. XXXVI).
- (b) Kashināth Śāstri : *Aitareya Brāhmaṇa*. Book II (Anandāśrama Series, Vol. XXXII).

Books recommended—

- 1. Macdonell : Vedic Grammar for students.
- 2. Macdonell : History of Sanskrit Literature, Chapters I—IX.
- 3. Sayana : *R̥gvedabhāṣyabhūmikā*.

Paper II.—*Historical Vedic Grammar and Philology*.

(a) Vedic Grammar—

- 1. Śaunaka : *Ākprātishākhya*.
- 3. Whitney : Historical Sanskrit Grammar.

(b) Philology—

- 1. Giles : Manual of Comparative Grammar (Introduction only).

2. Bhandarkar—Wilson Philological Lectures.

Paper III.—*Vedic Religion and Mythology.*

(a) Vedic Religion—

1. Bloomfield : Religion of the Veda.
2. Max Müller : Hibbert Lectures on the Origin and Growth of Religion.

(b) Vedic Mythology—

1. Macdonell : Vedic Mythology.
2. Ragozin : Vedic India.

Paper IV.—*Composition.*

GROUP B.—SANSKRIT LANGUAGE AND LITERATURE.

PAPER I .. { Kāvya prakāśha.
Naiṣadha, Cantos I—III and VI—XIII.
Kādambarī Pūrvabhāga.
Vṛttaratnākara (omitting Chapter VI).

PAPER II .. { Dasharūpaka.
Sāhityadarpaṇa, Chapter III.
Ratnāvalī.
Veṇīsamhāra.

Paper III.—

(a) Sanskrit Grammar—

Bhattoji Dikshit .. Siddhānta Kaumudī—Samāsa.

Varadarāja .. Laghusiddhāntakaumudī. (Omitting the sections on Samāsa.)

Or (b) *Comparative Philology of Indian Languages, with especial reference to the Prakrits and the North-India Vernaculars.*

Books prescribed—

M. P. Dwivedi : Hindi Bhasha ki utpatti (Indian Press).

Sir George Grierson : Vernacular Literature of Hindustan.

Beames : Comparative Grammar of Modern Aryan Languages of India (Trubner).

Encyclopædia Britannica : Articles on Western and Eastern Hindi.

Uhlenbeck : Manual of Sanskrit Phonetics (Luzac).

Books recommended—

Sir George Grierson : Languages of India (Government Printing Press, Calcutta).

P. D. Gune : Introduction to Comparative Philology (Oriental Book Supplying Agency, Poona).

Sanskrit Gramatik—by Thumb.

Sir R. G. Bhandarkar : Wilson Philological Lectures (Mrs. Sagoon, Bombay).

Sir George Grierson : Linguistic Survey of India : Introduction to the various volumes on North-Indian Languages.

E. Greaves : Grammar of Tulsidas' Ramayan (Benares).

Misra Brothers : Hindi Sahitya ka Sankshipta Itihas.

E. Keay : Hindi Literature (Heritage of India Series).

Balmukund Gupta : Hindi Bhasha.

Bai D. C. Sen Sahib : Vanga Sahitya Parichaya, Vol. I.

Sir George Grierson : Maithili Grammar and Chrestomathy, 2 volumes.

Azad : Ab-i-Hayat.

and

(c) Sanskrit Literature—

1. Macdonell .. History of Sanskrit Literature.
2. Dr. Keith .. Vedic Akhyana and Sanskrit Drama (J. R. A. S., 1911, pp. 979—1009, and 1912, pp. 411—438).
3. Kidgeway .. Dramas and Dramatic Dances (Section IV on India, pp. 121.—216).

Paper IV.—*Composition.*

GROUP C.—DHARMAŚĀSTRA.

Paper I.—

- 1.—Jaimini—Mimāṃsa—Sūtras with (a) Shabarabhāṣya (Tarkapāda only) and (b) Subodhini on I—XII.

Laugakṣibhāskara—Arthasangraha.

2. Yājñavalkya .. Yājñavalkya Smṛti with Mitākṣarā on Vyavahārādhyāya.

Paper II.—

1. Kātyāyana .. Shrautasūtra.
2. Pāraskara .. Gṛhyasūtras.
3. Manu .. Mānava—Dharmaśāstra.

Paper III.—*History of Dharmaśāstra Literature.*

1. Bühler .. Sacred Laws of the Aryas and Institutes of Manu (S. B. E., Vols. II, XIV and XXV, Introduction only).
2. Oldenberg .. The Gṛhyasūtras (S. B. E., XXIX and XXX, Introduction only.)
3. Jolly .. Tagore Law Lectures (Introduction only).
4. Pollock (Editor), Maine's Ancient Law.

Book recommended—

Macdonell : History of Sanskrit Literature.

Paper IV.—*Composition.*

GROUP D.—PHILOSOPHY.

Paper I.

1. Gautama .. Nyāyasūtras with Bhāṣya, Chap I.
2. Viśvanatha Pañchānana .. Nyāyamuktāvalī.
3. Vaiśeṣikasūtra with Upaskāra. Chapters I, II and III.

Paper II.—

1. Vāchaspati Miśra—Sāṅkhyatattvakaumudī.
2. Suzuki .. Outlines of Mahāyāna Buddhism.

Paper III.—

1. Bādarāyaṇa .. Brahmasūtras with Shāriraka Bhāṣya Adh. I, Pādas I, Sūtras 1 - 4, Adh. II, Pādas I and II.
2. Prakāśānanda .. Vedānta—Siddhāntamuktāvalī.
Edited by DR. A. VENIS
(Medical Hall Press, Benares).

Books recommended -

1. Tarkasangraha—Edited by Bodas.
2. Six Systems of Indian Philosophy, by Max Müller.
3. Systems of the Vedānta by Deussen.

Paper IV.—*Composition.*

GROUP E.—EPIGRAPHY AND PALÆOGRAPHY.

- PAPER I .. { Asoka Inscriptions.
History of the Northern-Indian alphabets
with special reference to Brāhmi and its
derivatives.

PAPER II . . { Gupta Inscriptions.
The origin and use of the Vikrama and Sākā-
eras.

PAPER III.—Early History of India (600 B.C. to 1200 A.D.).

(With special reference to *Maurya, Kuṣāna and Gupta periods.*)

PAPER IV.—Composition.

Books recommended—

For the first paper:—

Epigraphia Indica, Vols. II, III and VIII.

Report of the Archæological Survey of Hyderabad.

Volume containing the Maski Edict.

Bühler—Indian Palæography (English version).

Shama Shastri—Papers on origin of the Indian alphabet—published in the Indian Antiquary.

Bühler—*Origin of the Brāhmī Alphabet.*

For the second paper:—

Corpus Inscriptionum Indicarum, Vol. III, by Fleet

Indian Antiquary, Vols. XIX—XX, XXII—XXVI.

Sewal and Diksita—Indian Calendar—(Section I dealing with Indian Calendar Terms).

Bhandarkar commemoration volume.

For the third paper:—

Smith—Early History of India.

Rapson—Ancient India.

Rhys Davids—Buddhist India.

Yuan Chwang—Travels in India.—Edited by Watters.

Kalhana—Rājataranginī.—Introduction by Stein.

*For all papers—*Chapters I—VI of the Imperial Gazetteer, Vol II.

N.B.—Candidates will be expected to decipher in facsimile copy of the Asoka and Gupta Inscriptions.

Arabic.**PREVIOUS—THREE PAPERS.**

Paper I.—Pre-Islamic Poetry باب الحماسه from Diwan Hamasa and Muallaqat IV, V and VI from Sabaah Muallaqah.

Paper II.—Maqamat Hariri first 15 Maqamas and Alanwarul Muntakhabah.

Paper III.—Abulfida Vol. I (up to the end of الهامون).

Critical questions will be set in each of the papers I and II and a sound knowledge of Syntax, Prosody and Rhetoric will be expected. The third paper will be set to test the knowledge of the History of Islam.

FINAL—FOUR PAPERS.

Papers I, II and III.—Three of the following groups only :—

- (a) Mysticism—Selections from رساله قشيرييه
and احياء العلوم
- (b) Commentary of the Quran—Selections from
كشافات or بيضاوي or جامع الجوامع طبرسي
- (c) Belles Letters—Selections from مقامات حريري
and مقامات بديعي
- (d) Text Hadith with the Allied Lughat either
مجمع البحار with the help of صحيح مسلم
or مجمع البحرين with the help of استبصار

- (e) Pre-Islamic Poetry—Selections from
مفضليات و حماسه and some other Diwans
- (f) Mokazramin and Islamic poets. Some
poets as لبید - حسان.
- (g) Mowalladin (Selections from ابوالعلاء المعري
(اخطل - کهنیت - فرزدق - جریر - متنبی).
- (h) Logic and Metaphysics صدر ا - حمد الله
و قاضي مبارک
- (i) Comparative Philology of Semitic Languages—Wright's comparative Grammar
of semitici languages.
- (j) History of Literature—Haurt or Nicholson.
- (k) History of Islam (one specific period from
ابن اثیر or طبري).
- (l) History of the Arabs in India فتوح البلدان
and selections from the standard works.
(Other groups may be added if necessary).

Paper IV.—Essay on one of the subjects
offered.

Vivâ voce on the other two subjects.

Persian.

NOTE—Persian words must be written in the Persian character.

PREVIOUS—THREE PAPERS.

Paper I.—Prose :—

Waqai Nemat Khan Ali, 101 pages from the beginning (Newal Kishore Press).

Akhlaq-i-Nasiri from the beginning to the end
of تهذيب النفس

Paper II. — Poetry — Qasaid :—

Qasaid Khaqani Vol. I (Newal Kishore Press), beginning with

- | | |
|----|--|
| ۱ | دل من پیر تعلیم است و من طفل زباندا نش |
| ۲ | هر صبح سر زگلشن سود ابر آورم |
| ۳ | خورشید کسری تاج بین ایوان نو پرداخته |
| ۴ | صبح خیزان بین قیامت در جهان انداخته |
| ۵ | قحط وفا است در بنه آخر الزمان |
| ۶ | هر صبح پای صبر بدامن در آورم |
| ۷ | صبح خیزان بین بصدور کعبه مهیا آمده |
| ۸ | صبحدم چون کله بند آه دود آسائے من |
| ۹ | درین دامگاه ارچه همدم ندارم |
| ۱۰ | دام زد حسن تو شد آسمان |
| ۱۱ | از همه عالم شده ام بر کران |
| ۱۲ | شاعر سا حر منم اندر جهان |
| ۱۳ | درین منزل اهل وفائے نیابی |
| ۱۴ | عافیت را نشان نمی یابم |
| ۱۵ | سنت عشاق چیست برک عدم ساختن |

- ۱۶ نا گذران دل است نوبت غم داشتن
- ۱۷ در ساحت زمانه ز راحت نشان مغشوا
- ۱۸ مارا دلیست زله خور خوان صبحگاه
- ۱۹ صبح وارم کافتای درنهای آورده ام
- ۲۰ رخسار صبح را مگر از برقع زرش
- ۲۱ صبح هزار عید وجود است جوهرش
- ۲۲ جبهه زرین نهود طره صبح از نقاب
- ۲۳ صبح خیزان کز دو عالم خلوتی برخاستند
- ۲۴ عید است و پیش از صبحدم مژده بخمار آمده
- ۲۵ آن پیر ما که خضر بقائے است خضر نام

Qasaid Urfi beginning with

- ۱ اے متاع درد در بازار جان انداخته
- ۲ اقبال کرم می گزد ارباب هم را
- ۳ اے. برزده دامن بلا را
- ۴ سمیده دم چو زدم استین بشمع شعور
- ۵ جهان بگشتم و دردا بهیچ شهر و دیار
- ۶ صبحدم چون درد مد دل صور شیون ز اے من
- ۷ دمیکه لشکر غم صف کشد بخونخواری
- ۸ دل من باغبان عشق و حیرانی گلستانش
- ۹ رفتم اے غم ز در عمر شتابان رفتم
- ۱۰ چهره پرداز جهان رخت کشد چون به حمل
- ۱۱ ز آسمان و زمین مژده ناگهان آمد
- ۱۲ عادت عشاق چیدست مجلس غم داشتن
- ۱۳ زحود گردیده بر بنده چه گویم کار جان بینی
- ۱۴ کجا به حسن شود باتو همعدان فرگی
- ۱۵ نو بهار آمد که افشاند چو حسن یار گل

(b) Literary criticism—

Sherwani (H. R.), Sir Gore Ousley, Warner,
سخندان فارس and Mathew Arnold.

(c) Ethics, Politics and Civics—

Ilmul Akhlaq by Justice Karamat Husain

اخلاق جلالی با استدلالی بحث نغمه

(d) History of Islam—

(1) The Prophet and first four Caliphs.

(2) Either the reign of Omayyads or the reign of Abbassids up to the end of the reign of

المعزول على الله

and حبيب السير or روضته الصفا - ترجمه تاریخ طبری -

Amir Ali's History of the Seracens.

(e) Philosophy with special knowledge of sufi-ism—
Fitz-gerald, Clarke, Ghazzali

(کیمیاے سعادت ترجمه احیاء العلوم)

Paper IV.—Composition—

Essay in Persian on the group offered for paper III.

Viva voce on the subjects offered for the first three papers.

NOTE.—Question on معیار الاشعار and حدائق البلاغ will be set in both the examinations. Students who offer Persian are required to have such knowledge of the Etymology of Arabic language as will enable them to explain all Arabic words and phrases occurring in the Text.

Latin.

The examination for the degree of M.A. in Latin will be conducted partly by papers and partly *vivâ voce*.

Candidates will be examined in—

- (a) The Authors prescribed below.
- (b) The general History, Geography, Mythology and Antiquities relating to the Authors prescribed, Grammar and Philology.
- (c) Latin Prose Composition.

PREVIOUS.

There will be three papers :—

- I. } On the Authors prescribed, *i.e.*, Terence, Lucretius, Cicero, Horace, Juvenal, together with questions dealing with the History, Geography, Antiquities and Mythology bearing on or relating to them,
- II. } together with questions on Grammar and Philology.
- III. Latin Prose Composition.

FINAL.

There will be three papers :—

- I. } On the Authors prescribed, *i.e.*, Catullus, Tibullus Propertius, Virgil and Tacitus, together with questions dealing with the History, Geography, Antiquities and Mythology bearing on or relating to them
- II. } together with questions on Grammar and Philology
- III. Latin Prose Composition.

N.B.—Candidates in the Final M.A. must be prepared to answer, if necessary, questions involving a knowledge of the authors already taken for the Previous M.A.

Mental and Moral Science.

There will be four papers and an Essay. For the *Previous Examination* candidates are required to select any two papers of the course, and for the *Final Examination*, the remaining papers with the Essay.

There will be four groups :—

I.—Logic and Metaphysics.

II.—Psychology.

III.—Ethics (Plato and Aristotle).

IV.—Additional Ethics.

All candidates are required to elect Group I on which two papers will be set.

Candidates may offer any two of the remaining groups, on each of which one paper will be set.

The following texts are prescribed :—

Group I—

LOGIC AND METAPHYSICS.

H. W. B. JOSEPH : An Introduction to Logic.

LOCKE : The Philosophy of Locke in extracts from the "Essay concerning Human Understanding."
Arranged by J. E. Russell, Henry Holt & Co.,
New York, 1906.

HUME : Treatise on Human Nature, Book I. *Of the Understanding.*

KANT : Watson's Selections (Maclehose & Sons, Glasgow)
Critique of Pure Reason.

SETH : Scottish Philosophy (Blackwood & Sons, London).

Group II—

PSYCHOLOGY.

Psychological Principles, by J. Ward, Cambridge University Press.

W. JAMES : Principles of Psychology.

Group III—

ETHICS (PLATO and ARISTOTLE).

PLATO: Republic (in an English translation, either Jowett's or Davies' and Vaughan's).

ARISTOTLE: Nicomachean Ethics (Translated by Peters or Williams).

Group IV—

ADDITIONAL ETHICS.

GREEN: Prolegomena to Ethics.

HERBERT SPENCER: Data of Ethics.

SIDGWICK: Methods of Ethics.

A general knowledge of the History of Philosophy will be required of all candidates.

Books recommended—Weber and Windelband.

The following course in Indian Philosophy as an optional subject under Group VI, i.e., as an alternative to "additional ethics"—

1. Tarkabhāsha.

2. Sāmkarabhāshya to Vedānta Sutrās, Adhyāya I, Pāda I; Sutrās 1 to 4; Adhyaya II, Padas 1 and II.

3. "Aristotle," Vol. I, pages 161—416, English translation of Zeller's "Philosophy of the Greeks," by Costelloe and Muirhead (Longmans, Green & Co.).

Indian Philosophy should be studied in original text and from a comparative point of view.

[In addition to Groups II, III and IV, the Committee of Courses and Studies in Philosophy will be prepared to consider the question of suggesting courses in Additional Psychology (Physiological and Experimental) and also in Indian Philosophy when any College is prepared to offer for the same.]

Economics.

For the Previous Examination all students take the same course, but for the Final they choose between courses A and B.

PREVIOUS EXAMINATION.

There will be four papers :—

PAPER I.—Scope and Method of Economics. Theory of Consumption and Exchange. International Trade.

PAPER II.—Theory of Production and Distribution.

PAPER III.—Money, Banking, Foreign Exchanges, Elementary Statistics.

PAPER IV.—Public and Joint-stock Finance; Industrial and Commercial Organisation (including the Factory System and Trusts).

In each of the above papers the candidate will be expected to choose his illustrations and examples more often from Indian than from foreign conditions, except when the facts to be illustrated are not known in India.

In all papers a knowledge of Economic History is expected, the history being studied in relation to the modern conditions of each subject.

FINAL EXAMINATION.**Course A.—**

PAPER I.—Advanced Economic Theory (including diagrammatic and simple mathematical treatment), with elaboration of the theories of

wages, population, and profits. History of economic Theories from the fifteenth century, beginning with the Physiocrats.

Candidates will choose one of the following alternatives :—

PAPER II a.—Trade Unions and Labour Problems ; Conciliation and Arbitration ; Unemployment and social insurance ; factory legislation and welfare management ; standard of living ; housing reform. Distributive Co-operation. Producers' co-operation and profit-sharing.

Or

PAPER II b.—Social and Commercial Theories. *Laissez Faire*, Socialism, Syndicalism, and Guild socialism, Communism and the Soviet system. Anarchism. Social teachings of Comte, Le Play, Ruskin and William Morris, Free-trade, Protection, and the Colonial system. Imperial Preference.

PAPER III.—Administration, mainly local. Rural Economics in India (including agricultural improvement, rural education, agricultural credit, co-operation, and local industries).

PAPER IV.—Essay.

PAPER V.—*Viva Voce* Examination.

The above to be studied in relation to Indian as well as to European and American conditions. In all subjects a knowledge of the historic growth to present conditions will be expected.

Course B.—

PAPER I.—Advanced Economic Theory (including diagrammatic and simple mathematical treatment) with elaboration of the theories of wages, population and profits. History of Economics. Theories from the fifteenth century beginning with the Physiocrats—(same as paper I of Course A).

PAPER II.—Theory and Practice of Statistics.

PAPER III.—Essay on Economic Theory.

PAPER IV.—Special subject taken in detail.

(The subject to be specified by the University Professor of Economics twelve months before the date of the Examination.)

PAPER V.—*Viva Voce* Examination.

Note-books of Practical work, and four essays done during the session to be shown up and passed by Examiners with a certificate of the University Professor that to the best of his knowledge the essays are the candidate's own work.

In all subjects a knowledge of the historic growth to present conditions will be expected.

**LIST OF BOOKS USEFUL FOR READING AND
REFERENCE BY M.A. STUDENTS.**

The latest edition of each work is intended, except in the case of classical works by Adam Smith, Malthus, etc.

I.—General Economics and Economic Theory.

- | | |
|----------------------------------|---|
| *1. Marshall (A.) | ... Principles of Economics. |
| *2. Taussig (F. W.) | ... Principles of Political Economy. |
| 3. Keynes | ... The Scope and Method of Political Economy. |
| 4. Moreland | ... Introduction to Economics. |
| 5. Chapman (S. J.) | ... Outlines of Political Economy. |
| 6. Carver (T. N.) | ... Distribution of Wealth. |
| 7. Carver (T. N.) | ... Principles of Political Economy
(Gian and Co.). |
| 8. Clark (J. B.) | ... Essentials of Economic Theory |
| 9. Wicksteed | ... Common Sense of Political Economy |
| 10. Wicksteed | ... Alphabet of Economic Science |
| 11. Fisher | ... Nature of Capital and Income |
| 12. Jevons (H. S.) | ... Essays in Economics. |
| 13. Seager | ... Principles of Economics |
| 14. Marshall, Field, and others. | Economic Materials. |
| 15. Fisher | ... Rate of Interest. |
| 16. Fisher | ... Purchasing Power of Money. |
| 17. Seligman | ... Principles of Economics. |
| *18. Wicksteed | ... Co-ordination of the Laws of Distribution. |
| *19. Pigou | ... Economics of Welfare |
| 20. Cunyngname (H.) | ... Geometrical Political Economy
(Macmillan). |
| *21. Marshall (A.) | ... Industry and Trade For reference
especially Book I, Chapter II, and
Book II). |

[T. N. Carver's *Distribution of Wealth* (Macmillan) and either S. J. Chapman's *Outlines of Political Economy* (Longmans) or H. D. Henderson's *Supply and Demand* (Nisbet and Co.) are assumed to have been read for the B.A.]

II.—History of Economic Theory.

- | | |
|------------------|---|
| 1. Price | ... History of Political Economy in England. |
| 2. Ingram | ... History of Political Economy in England. |
| *3. Haney | ... History of Economic Thought. |
| 4. Gide and Rist | ... History of Economic Doctrines. |
| 5. Cannan (E.) | ... A History of the Theories of Production and Distribution in English Political Economy from 1776—1848. |
| 6. Ashley | ... An Introduction to English Economic History and Theory. |
| 7. Adam Smith | ... Wealth of Nations. |
| 8. Malthus | ... Essay on Population (2nd or late edition). |
| 9. J. S. Mill | ... Principles of Political Economy. |

III.—Trade Unionism

- | | |
|----------|---|
| 1. Webb | ... Industrial Democracy : A Study in Trade Unionism. |
| 2. Webb | ... History of Trade Unionism. |
| 3. Lloyd | ... Trade Unionism. |

IV.—Socialism.

- | | |
|----------------------|-------------------------------------|
| 1. Kirkup | ... History of Socialism. |
| 2. Orage | ... National Guilds. |
| 3. Henderson | ... The Case for Socialism. |
| *4. Spargo and Arner | ... Elements of Socialism. |
| 5. Cole | ... World of Labour. |
| 6. Salter | ... Karl Marx and Modern Socialism. |

V—Municipal Government and Trading

- 1 Dawson (W H) ... Municipal Life and Government in Germany
- 2 Knoop ... Principles and Methods of Municipal Trading.
- 3 S and B. Webb .. English Local Government.
- 4 Fairlie (J A) Municipal Administration.
- 5 Ashley (Percy) English Local Government
- 6 Forrest The Indian Municipality.

VI—Social Conditions

- 1 Rowntree Poverty.
- 2 Rowntree Land and Labour—Lessons from Belgium.
- 3 Booth ... Life and Labour of the People in London.
- 4 S. and B. Webb . The Public Organisation of the Labour-Market.
- 5 Dearle Industrial Planning
- 6 Bowley and Burnett- Livelihood and Poverty.
Hurst
7. A C. Pigou Unemployment Home University Series).
8. Nettelfold ... Practical Housing

VII—Co-operation and Profit Sharing

- 1 Ewbank, R B Indian Co operative Studies, Bombay University Studies No 2, Oxford University Press
2. Fay Co operation at Home and Abroad
3. Wolff . Village Banks

4. D. F. Schloss ... Methods of Industrial Remuneration (3rd edition, 1907).
5. Board of Trade ... (Labour Department, Report on Profit Sharing and Labour Co-partnership in the U. K., 1912.)
6. Wolf ... Co-operative Banking.
7. Aneurin Williams ... Copartnership and profit sharing (Home Univ. Series).

Annual Reports on Co-operative Credit Societies in the U. P. and the C. P.

The Report of the MacLagan Committee on Co-operation; Government of India Resolution on Co-operation; Government of the U. P. Publications of the Registrar of Co-operative Societies.

VIII.—Industrial Organisation.

1. Clark ... Problem of Monopoly.
- *2. Hirst ... The Story of the Trusts.
3. Macrosty ... The Trust Movement in British Industry.
4. Hobson ... Evolution of Modern Capitalism (W. Scott).†
5. Jenks ... The Trust Problem.
6. Ripley (Z.) ... Trusts, Pools and Corporations.
- *7. Marshall (A.) ... Industry and Trade (Book II, and Book III, Chapters I—III, VII and VIII).

IX.—Factory Legislation.

- *1. Hutchins and Harri- History of Factory Legislation in
son. England.
- *2. Kydd, W. ... Factory Legislation in India.

+ (Omitting Chapters on overproduction and underproduction.)

X.—Economic History.

- | | |
|------------------------------|--|
| 1. Toynbee | ... Industrial Revolution. |
| 2. Ashley W. | ... Economic Organisation of England |
| 3. Price | ... A Short History of English Commerce and Industry. |
| 4. Cunningham | ... The Industrial Revolution. |
| 5. Lipson (E.) | ... The Economic History of England—Middle Ages (A. and C. Black). |
| 6. Cambridge Modern History. | The Latest Age, Vol. XII. Chapters on Economic Developments. |
| 7. Lucas | ... Beginnings of English Overseas Enterprise. |
| 8. Coman | ... Industrial History of the U. S. A. |
| 9. Ashley, P. | ... Modern Tariff History. |

XI.—Statistics.

- | | |
|-------------|--|
| 1. Bowley | ... Elements of Statistics. |
| *2. Bowley | ... Elementary Manual of Statistics (2nd edition). |
| 3. Elderton | ... Primer of Statistics. |
| 4. Yule | ... An Introduction to the Theory of Statistics. |

XII.—Money, Finance and Banking.

- | | |
|----------------------|--|
| 1. Jevons | ... Money and the Mechanism of Exchange. |
| 2. Price | ... Money and its Relation to Prices. |
| 3. Clare | ... Money Markets Primer. |
| 4. Robertson (D. H.) | ... Money (Nisbet & Co.). |
| *5. Gregory (T. E.) | ... Foreign Exchange, before, during, and after the War (Oxford University Press). |

- | | |
|-----------------------|--|
| 6. Fisher (I.) | ... Why is the Dollar Shrinking ? |
| 7. Jevons (W. S.) | ... Investigations in Currency and Finance. |
| 8. Cooper | ... Financing an Enterprise. (Roland.) |
| 9. Hirst | ... Stock Exchange. |
| *10. Withers | ... Stocks and Shares. |
| 11. Withers | ... The Meaning of Money. |
| 12. Fiske | ... The Modern Bank. |
| 12. Easton | ... Money, Exchange and Banking. |
| 14. Bastable | ... Theory of International Trade. |
| 15. Keynes (J. M.) | ... Indian Currency and Finance. |
| 16. Spalding (W. F.) | ... Eastern Exchange, Currency and Finance (Pittman). |
| 17. Robertson (D. H.) | ... Study of Industrial Fluctuation. |
| <i>For reference.</i> | |
| Shirras (G. F.) | ... Indian Finance and Banking. |
| Clare | ... A. B. C. of the Foreign Exchanges |
| Goschen | ... The Foreign Exchanges. |
| Conant | ... History of Modern Banks of Issue (Putnam). |
| Marshall (A.) | ... Evidence before the Gold and Silver Commission ("Royal Commission on recent changes of the relative values of the precious metals") Minutes of Evidence, Part 4, 1888. |

Reports of the Indian Currency Committees of 1893 and 1898, and Royal Commission of 1914, and Parts of Evidence.

Cassell (Gustav) ... Memorandum on the World's Monetary Problems (League of Nations)

[H. S. Jevons' *Money Banking and Exchange in India* and J. A. Todd's *Mechanism of Exchange* (Oxford University Press) are expected to have been read for the B. A.]

XIII —Public Finance.

- *1. Plehn .. Introduction to Public Finance.
- 2. Bastable ... Public Finance
- 3 Stamp .. . Fundamental Principles of Taxation

XIV. — Economic Geography.

Bartholomew and Lyde Atlas of Economic Geography.

XV.—Land Revenue, Agriculture and Co-operation in India.

- 1. Moreland (W. H.) Revenue Administration of the U. P.
- 2. Strachey ... India.
- 3. Baden-Powell ... Land Revenue and its Administration
- 4 Alston ... Indian Taxation
- 5. Indian Gazetteer, Vols. III and IV."
- 6. The Indian Year Book for the current year.
- 7. Government of India Budget speech, and explanatory statements for current and last preceding financial years.
- 8. Report of the Royal Commission on Indian Finance and Currency, 1914
- 9. Report of the Committee on the Rise in Prices: Datta report and the Government Resolution thereon.
- 10. Marshall (A): Evidence before the Gold and Silver Commission (" Royal Commission on recent changes of the relative values of the precious metals ") Minutes of Evidence, Part 4, 1888.
- 11. Report of Indian Currency Committees of 1893 and 1898, and Royal Commission of 1914, and Parts of Evidence
- 12. Cassol (Gustav): Memorandum on the World's Monetary Problems (League of Nations).
- 13. Government of India Statistical Abstract.
- 14. Government of the U. P., Publications of the Revenue and Land Record Departments.

15. Decennial Report on the Moral and Material Progress of India, Chapters X—XVII (inclusive), XIX and XXIII. Published, 1913.
16. TODD: The World's Cotton Crops.
17. JACK: Economic Life of a Bengal District.
18. MANN: Life and Labour in a Deccan Village, I and II.
19. MORELAND: Agricultural Conditions of the United Provinces.
20. KEATINGE: Rural Economy of the Bombay Deccan.
21. SLATER: Some South Indian Villages.
22. JEVONS: The Consolidation of Agricultural Holdings (Bulletin No. 9 of Economics Department).
23. MACKENZIE (N. F.): Notes on Irrigation Works (Constable & Co., 1910).

XVI.—Journals.

1. Economic Journal, London.
2. Quarterly Journal of Economics, Harvard.
3. Indian Journal of Economics. (Economics Department.) University of Allahabad.
4. Journal of the Royal Statistical Society.

History.

- (1) One of the following One paper.
- (a) The Maurya Age.
- or (b) India in the XIVth Century.
- or (c) Akbar.
- or (d) Jahangir and Shahjahan.
- or (e) British India in the XVIIth Century.
- or (f) Constitutional Development of India from 1858 to 1919.

(2) One of the following ... One paper.

(a) Revolutionary Europe.

or (b) History of Europe, 1815 to 1885.

or (c) History of Europe, 1878 to the present day.

(3) Political Science ... One paper.

Paper I.

(a) Special period. The Maurya Age .. Two papers.

*Smith, V. A.: Asoka.

*Corpus Inscriptionum Indicarum Vol. I.

*Cambridge History of India. Vol. I, Ch: 18—21.

*Kautilya's Arthshastra. Trans. by Sham Shastri.

Law, N. N.: Studies in Ancient Indian Polity.

Bhandarkar, D. R.: Charnichael Lectures.

Ayyangar, K. S.: Madras University Lectures.

Shastri, S.: Ancient Indian Polity (Calcutta University Lectures).

*Yazdani : Journal of Hyderabad Archæological Society
Vol. I.

Fergusson : History of Indian and Eastern Architecture.

Havell : Indian Architecture.

Gauri Shankar, Rai Bahadur : The Paleography of India.

Or,

(b) Mediæval Indian History, 1000—1526 }
A. D. } Two papers.
Special period, India in the XIV Century. }

*Briggs : Ferishta.

*Elliot and Dowson, Vol. III.

Ibn Batuta, Urdu Translation by Muhammad Husain,
or English translation by Lec.

Thomas : Chronicles of the Pathan Kings.

Yule : Cathay and the Way Thither.

Yule : Marco Polo.

*Bailey : Gujrat.

*Stewart : History of Bengal.

*Sewell : History of a Forgotten Empire.

Ayyangar, S. K. : South India and Her Mohammadan
Invaders.

Todd : Annals of Rajasthan.

Bhandarkar : History of the Deccan.

Bombay Gazetteer, Parts I and II.

Fergusson : Chapter on Pathan Architecture.

Havell : Indian Architecture (Mediæval).

(c) Akbar.

*Elliot and Dowson : History of India, Vols. V. and VI.

Monserate's Commentaries translated by Hoyalnd and
Banerji.

Akbar Nama; translation by Beveridge.

Muntakhibut Tawarikh, translated by Lowe.

*Ain-i-Akbari : Blochman and Jarrett.

*MacLagan : The Jesuit Missions to Emperor Akbar.

The Journal of Bengal Asiatic Society, for 1896.

Todd : Annals and Antiquities of Rajasthan (selected
portions).

(d) *Jahangir and Shahjahan.*

*Rogers and Beveridge : Tuzaki Jehangiri.

*Elliot and Dowson : History of India, Vols. VI and VII.

Sarkar : History of Aurangzeb, Vol. I.

Grant Duff : History of the Mahrattas. Vol. I.

Ranade : Rise of the Mahratta Power.

Macauliffe : The Sikh Religion. Vols. III and IV.

Kincaid and Prasanis : History of the Mahrattas. Vol. I.

Todd : Rajasthan (Chapter on Mewar).

Fergusson : History of Indian Architecture. Portions from Vol. II.

Havell : Indian Architecture.

*Beni Prasad : History of Jahangir.

Hoyland and Bannerjee : Monesrree's Commentaries.

Moreland, W. H.: From Akbar to Aurangzeb.

Or,

(e) *The British in India in the XVIIth Century.*

*Hunter, Sir William : History of India, 2 Vols.

Rawlinson, H. G.: British Beginnings in Western India.

*Khan, Shafaat Ahmad : The East India Trade in the XVIIth Century, Oxford 1923.

Khan, Shafaat Ahmad : Anglo-Portuguese Negotiations relating to Bombay, 1660—1673.

Khan, Shafaat Ahmad : Articles in the *Journal of Indian History*, and the *Journal of the United Provinces Historical Society*.

*Macpherson : History of European Commerce with India.

*William Foster, and Miss R. Saintsbury : Court Minutes of the East India Company.

William Foster : The English Factories in India.

*Strachey : Keigwin's Rebellion,

Love, Colonel: Vestiges of Old Madras.

Wilson: Early annals of the English in Bengal.

*Hamilton Alexander: A New Account of the East Indies.

M. Yule: Hedge's Diary.

Scott, J. W.: The Constitution and Finances of Indian Stock Companies, 1660—1720.

Cambridge Modern History, Vols. III and IV.

(f) *Constitutional Development of British India, 1858—1919.*

Report of the Royal Commission on Decentralisation in India, Vol. I; Report (Cd. 4360 of 1908), Vol. II; Vol. IV. (Evidence taken in Eastern Bengal and Assam) (Cd. 4364 of 1908); Vol. VI (Evidence taken in the United Provinces), Vol. VIII (Evidence taken in Bombay).

Papers relating to the Imperial Advisory Council and Provincial Advisory Councils. The enlargement of the Legislative Councils, and the discussion of the budgets (Cd 3710 of 1907).

Proposals of the Government of India, and despatch of the Secretary of State. (Cd. 4436 of 1908).

Statement exhibiting the moral and material progress and condition of India during the years 1907-08; 1917-18; and 1918-19, 1920.

Montagu-Chelmsford Report.

Curtis, J. L.: Papers on Dyarchy.

Ilbert, Sir C: The Government of India (last edition).

Paper II.

(a) Revolutionary Europe, 1789—1815.

*Madelin : French Revolution.

*Rose : Napoleon.

Burke : Reflection on the French Revolution.

*Acton : Lectures on the French Revolution.

Fournier : Napoleon.

Rosebery : Pitt.

Mahan : Influence of Sea Power on the French Revolution.

Aulard : Political History of the French Revolution.

Taine : Ancient Regime. (English translation).

De Tocqueville : Society in France before the French Revolution.

Young, A. E : Travels in France.

*Morse Stephens : French Revolution.

*Morse Stephens : Revolutionary Europe.

Fortescue : History of the British Army (rélevant portions).

Rousseau : Social Contract.

Morley : Burke.

Fisher : Napoleon.

Fisher : Bonapartism.

Cambridge Modern History, Vols: VIII and IX.

Cambridge History of British Foreign Policy, Vols. I, II and III.

*Or,**(b)* History of Europe, 1815—1885 . . One paper.**Andrews* : Development of Modern Europe.*Webster, K.* : Congress of Vienna.*Webster, K.* : Foreign Policy of Castlereagh.*Hearnshaw* : Main Currents of Modern Europe.*Hazen* : Europe since 1815.*King, B.* : A History of Italian Unity.*Phillips, W. Alison* : Modern Europe.*Lipson* : Europe in the XIXth Century.*Hunt and Poole* : History of England, Vols. XI and**XII.****Seignobos* : Contemporary Europe.*Marriott* : Remaking of Modern Europe.*Trevelyan* : British History in the XIXth Century.*Cambridge Modern History*, Vols. X and XI.*Marriott* : The Eastern Question.*Cambridge History of British Foreign Policy*, Vol. II.*Or.**(c)* History of Europe, 1878 to the present day, One paper.*Rose, J. E.* : Development of European Nations.*Hunt and Pool* : Political History of England, Vol. XII.*Goetch* : History of Modern Europe.**Kirkup* : History of Socialism.*Shadwell* : Industrial Efficiency.*Strachey* : Eminent Victorians.

Bismarck: Reflections and Reminiscences.

Cambridge Modern History, Vol. XII.

Holland, T. E.: The European Concert in the Eastern Question.

Cromer, Earl: Modern Egypt.

Trevelyan: British History in the XIXth Century.

Pollard: Short History of the Great War.

Dale: Contemporary Socialism.

Marvin: The Century of Hope.

Lucas: The Century of Progress.

Marriott: The Near Eastern Question.

(1) *Politics*: The paper will be divided into two parts.

Part (1) Comparative Politics.

„ (2) Political Theory.

The following books are suggested:—

Gilchrist: Principles of Political Science.

Leacock: Elements of Political Science.

Seeley: Introduction to Political Science.

Sidgwick: Development of European Polity.

Pollock: History of the Science of Politics.

Fowler: City States of Greeks and Romans.

Lowell: Governments and Parties in Continental Europe.

Marriott: English Political Institutions.

Barker: Political Thought in England from Spencer to the Present Day.

✓ Hearnshaw: Democracy at the Crossways.

Macdonald, Ramsay: The Socialist Movement.

Bryce: Modern Democracies.

All candidates for the M.A. Final examination must offer themselves for paper I, and one special period to be chosen from paper No. 2.

All candidates will be examined *viva voce*.

(1) An Essay One paper.

(2) One of the following subjects Two papers.

(i) The Puritan Revolution, 1603—1660.

Gradiner, S. R. : The Commonwealth and the Protectorate.

Firth, C. H. : The Last Years of the Protectorate.

Firth, C. H. : Introduction to Clarke Papers.

Firth, C. H. : House of Lords during the Civil War.

Firth, C. H. : Cromwell and his Army.

*Gardiner, S. R. : Constitutional Document of the Revolution.

*Gardiner, S. R. : Cromwell's Place in History.

Firth, C. H. : Life of Cromwell.

Carlyle : Letters and Speeches of Oliver Cromwell (Lomax's edition).

Or,

(ii) English History, 1714—1760 Two papers

*Lecky : History of England (relevant portions.)

*Grant Robertson : Select Statutes, Cases, and Documents.

*Morley : Life of Walpole.

Richmond, H. W. : The Navy in the War of 1739—49.

Corbett, Julian : England in the Seven Years War.

Buville : William Pitt, Earl of Chatham.

Williams, Basil : William Pitt.

*Mahan : Influence of Sea Power on History

Fortescue : History of the British Army.

Beer, G. L. : British Colonial Policy. 1756—65.

Or,

(iii) The American Revolution . . . Two papers.

Channing : History of the United States.

*Van Tyne, C. H. : The American Revolution.

Howard, G. K. F. : Preliminaries of the Revolution

*Fretzlyan, G. O. : The American Revolution.

*Fretzlyan, G. O. : George the Third and Charles
James Fox.

Perkin, J. B. : France in the American Revolution.

Fortescue, J. W. : History of the British Army
Vol. III.

Burke, E. : Speeches on the American Revolution.

Hamilton : The Federalist.

Mahan : Influence of Sea Power upon History.

Fisher : Evolution of the Constitution of the United
States.

Or,

(iv) The Industrial Revolution . . . Two papers.

*Toynbee, A. : Industrial Revolution.

*Cunningham : Growth of English Trade and Indus-
try, Vol. II, Part II.

Hammond, Mr. and Mrs. : History of the Town
Labourer.

Gonner : Common Law and Enclosures.

Smart : Economic Annals (selected portions).

*Prothero : English Farming : Past and Present.

Huskisson : Speeches.

POOR LAW Commission Report, 1834.

Cambridge Modern History, (relevant portions).

Sidney Webb : English Local Government (select Chapters).

PEEL : Memoirs.

MORLEY : Life of Cobden.

TREVELYAN : Life of Bright.

***Parliamentary Papers : (1) 1821. Select Committee on
Petition complain-
ing of the dist-
ressed state of agri-
culture.**

**(2) 1833. Select committee on
the state of agri-
culture and the
persons employed
therein.**

Or,

**(v) English Constitutional History with special refer-
ence to the period, 1688—1832.. .. Two papers.**

*** MAITLAND : English Constitutional History.**

**LECKY : History of England (Relevant parts of Vols.
I, II and III).**

*** GRANT ROBERTSON : Select Statutes, Cases, and Docu-
ments.**

*** ERSKINE MAY : Constitutional History of England.**

**LAFRADE, W. A. : The Secret Service of George III,
1763—1784.**

PIKE : History of the House of Lords.

*** BURKE, E. : Thoughts on the Present Discontent.**

*** BURKE, E. : An Appeal from the new to the Old
Whigs.**

POBRIIT : The Unreformed House of Commons.

BOLINGBROKE : The Idea of a Patriot King.

* **BURKE** : Letter to the Sheriff of Bristol.

The students will be required to study the following Acts in detail:—

(1) The Bill of Rights.

(2) The Act of Union with Scotland.

(3) The Act of Succession.

(4) The Declaration of American Independence.

(5) The Act of Union with Ireland.

(6) The Reform Act of 1832.

Or,

(vi) English Colonial History. Two papers.

* **EGBERTON** : A Short History of English Colonial Policy.

DOYLE, J. A. : The Colonies under the House of Hanover.

CURREY, C. H. : British Colonial Policy, 1783—1915.

KEITH, A. B. : Responsible Government in the Dominions.

CORNWALL-Lewis : Essay on the Government of Dependencies.

LUCAS : Lord Durham's Report.

EGBERTON AND GRANT : Canadian Constitutional Development.

CURTIS, L. : The Problem of the Commonwealth.

DILKE, SIR C. : Greater Britain.

* **LUCAS, C.** : The War and the Empire.

HALL, D. H. : The British Commonwealth of Nations.

JOHNSTON : History of Colonisation of Africa.

BRAND : Union of South Africa.

For the special periods, 1 to 6, knowledge of original sources will be required.

(3) *Viva Voce Examination.*

HINDI.**M.A. PREVIOUS.**

PASS COURSE GRADUATES ONLY CAN TAKE THIS COURSE.

There shall be four papers.—

PAPER I.—Poetry : Texts

Kabirdas : Bijaka.

Senapati : Kavitta Ratnakar. (Omitting Canto II).

Bihari : Satasai.

Deva : Vairagya Shatak.

Lal : Chhatra Prakash.

PAPER II.—Special Subject.

TULSIDAS.

PAPER III.—Prose and Drama.

Gokulnath : Chaurasi Vaishnavon ki Varta.

Prose Selections—Hindi Bhasha Sar, Part I.

(Hindi Sahitya Sammelan, Allahabad).

Harishchandra : Dramas.

(Khadgavilas Press, Bankipore).

Candidates will be expected to know (a) Sanskrit Dramaturgy, (b) the History of the Hindi Drama in the Nineteenth Century, and (c) The Development of Western Drama. The following books are recommended :—

Bharat : Natya Shastra.

Vishvanath : Sahitya Darpan.

Harishchandra : Nataka.

Ridgeway : Dramas and Dramatic Dances (Chapter on India).

Keith : Vedic Akhyana and Sanskrit Drama (Journal of the Royal Asiatic Society, (1911—12).

Harprasad Shastri : Origin of Indian Drama.

(Journal of the Asiatic Society of Bengal, 1909).

Haigh : Tragic Drama of the Greeks.

Chambers : The Mediæval Stage.

Creizenach : English Drama in the Age of Shakespeare.

Ward : A History of English Dramatic Literature.

PAPER IV.—An Essay.

M.A. FINAL.

HONOURS GRADUATES SHALL TAKE ONLY THIS COURSE.

There shall be four papers.—

PAPER I.—Poetry : Eards and Saints.

Selections from Hindi Literature, Volume I (Pardie Poetry), by Lala Sita Rama (Calcutta University Press).

Raidas : Lyrics.

The Grantha Sahib : Mahalla I (Nanak) and the non-Sikhs. (Nawal Kishore Press, Lucknow).

Dadu Dayal : Lyrics.

Sundardas : Sundar Vilas.

Santbani Sangrah (Parts I and II).

(Belvedere Press, Allahabad).

PAPER II. — Poetry : Krishna Kavya.

Vidyapati : Lyrics (Part I).

(Nagari Pracharini Sabha, Arrah).

Mira : Lyrics.

Nandadas : Ras Panchadhyayi and Bhramar Gita.

Krishnanand Vyas : Nitya Kirtan in the Raga Kalpadruma.

Nabhadas : Bhaktamal.

PAPER III.—Special subject

SURDAS.

PAPER IV —(a) Literary and Linguistic History of Hindi with Criticism.

The following Books are recommended :—

Misra Vandhu Vinoda.

Shiva Sinha Saroja.

Grierson : Vernacular Literature of Hindustan.

Ms. Reports of the Nagari Pracharini Sabha, Benares.

Linguistic Survey of India, Vols. VI and IX, Part I.

Census of India 1911, Vol. I. (Chapter on Languages).

Jagannath Prasad Dhanu : Chhanda Prabhakar.

Vishvanath : Sahitya Darpana.

Vamana : Kavyalankar Sutra.

Dhananjaya : Dasha Rupaka.

Raja Shekhar : Kavya Mimansa.

Carpenter : Mediæval Theism.

Hudson : Introduction to the Study of Literature.

English Critical Essays (World Classics Series).

Saintsbury : History of Criticism.

Havell : History of Aryan Rule in India.

(b) An elementary knowledge of the Literary and Linguistic History of Urdu.

URDU.

M A. PREVIOUS.

There will be four papers.

Paper I.—Masnavis—Religious and Secular :—

1. Masnavi Mir Hasan.
2. Gulzar-e-Naseem.
3. Masnavi by Mohsin Kakorvi.
4. Selections from Mairajul-Mazamin. (Anwar-i Ahmadi Press, Allahabad.)

Paper II.—Modern authors in prose and poetry, with a critical study of their works.

Prose—افتخارات از سیر کہسار - صبح زندگی -
اردوے معانی - مکتوبات آزاد - سیپارہ دل - منازل
الساثرہ - رسائل شبلی -
Poetry—کلام اقبال - کلام عزیز - کلام اکبر - گیتا
نعلی جذبات بہار - کلام ثاقب - کلام صفی - کلام
چکبست -

Paper III.—Rubaiyat by Hali, Anees, Dabir, Rasheed and Akbar.

Paper IV.—An Essay.

URDU.

M.A. FINAL.

There will be four papers.

Any two of the following groups :—

1. Essays and Novels in Modern times :—

انتخابات از مقالات شبلی - مجموعہ لکچر محسن
الملک - تصنیفات شرر - معبد علی - سر سید
احمد - سر شاو -

2. Comparative study of Urdu prose from earliest times up to present day.

بوستان خیال - چہار درویش - فسانہ عجائب -
فردوس بریں - خیالستان - انقلاب اسم (عبدالسلام)
ایشیائی شاعری

3. Mysticism and Philosophy in Urdu.

انتخابات از تصانیفات غالب - درد - ذوق - نیاز
ہریلوی - قاصی غازیپوری -

4. Development of the Masnawī in Urdu literature. A contrast with Masnawīs in Persian and Arabic will also be expected.

مراثی سورا - گدا ضمیر - خلیق سوانہ انیس دبیر
المیزان - حیات انیس حیات دبیر - بیان یزدانی -

5. Advent of the Ghazal in Urdu. Its various phases and evolution
آب حیات - تذکرۃ الشعراء
عبدالغفور نساج - خلیفۃ جاوید - نکات الشعراء
(میر) تذکرۃ الشعراء (میر حسن) -

6. Qasaid.—Critical study of Standard Author
Ancient and Modern :-

شعرالعجم جلد پنجم - مقدمہ آزاد مشتملہ دیوان
ذوق - ایشیائی شاعری - قصائد ذوق - سودا -
منیر - امیر - انشا -

Paper III.—(a) Literary and linguistic history of Urdu with criticism.

(b) An elementary knowledge of the literary and linguistic history of Hindi.

The following books are recommended :—

1. Ab-e-Hayat.
2. The article on Urdu in the Encyclopædia.
Britannica.
3. Linguistic Survey of India by Dr. Grierson,
Vol. IX, Part III, Chapter Western Hindi.
4. Sher-ul-Ajam.
5. Saintsbury's History of Criticism.
6. English Critical Essays (World Classics Series)
7. Hudson's Introduction to the Study of Literature.
8. Havell's History of Aryan Rule in India.

Paper IV.—Essays in elegant Urdu.

N.B.—Questions on grammar, rhetoric and prosody will be set in the 1st and 2nd papers.

The following books are recommended :—

1. Qawa'id e Urdu by Abdul Haq.
2. Platt's Grammar.
3. Zar-e-Ajam Kaveel

DOCTOR OF LETTERS EXAMINATION.

(See ordinances, Pages 22—4.)

B.Sc. EXAMINATION.**English Literature.**

As in the General Section prescribed for the B. A. there will be two papers:—

1st paper: An Essay on a subject of general interest, maximum marks 50.

2nd paper—Candidates will be asked to write short essays on subjects connected with one of the groups of books and to answer questions on unseen passages; maximum marks 35.

3. *Viva voce*—A test of general reading and command of the language. Maximum marks 15.

Mathematics

(For the Examination of 1926).

For the pass degree either Pure Mathematics or Applied Mathematics may be a subject of Examination.

For the Honours degree in a subject other than Mathematics either of Pure Mathematics and Applied Mathematics or both may be a subsidiary subject or subsidiary subjects of Examination.

1. The number of papers in *Pure Mathematics* will be three, viz.—

- (i) Algebra and Trigonometry.
- (ii) Plane, Pure and Analytical Geometry.
- (iii) Differential and Integral Calculus and Differential Equations.

2. The number of papers in Applied Mathematics will be three, viz.—

- (i) Statics and Hydrostatics.
- (ii) Elementary Dynamics including the plane motions of a rigid body.
- (iii) (a) for candidates who do not offer Pure Mathematics, Paper (iii) of Pure Mathematics (Calculus and Elementary Differential Equations).
- (b) for candidates who offer Pure Mathematics Spherical Trigonometry and Astronomy.

Detailed Syllabus :—

PURE MATHEMATICS.

Algebra.—Elementary theorems on convergence and divergence of series, binomial theorem for any rational index, exponential and logarithmic series, partial fractions, simple continued fractions, inequalities; general properties of equations, relations between roots and co-efficients and simple transformation of equations, easy determinants and elementary elimination.

Trigonometry including regular polygons, de Moivre's theorem, hyperbolic functions, inverse functions, summation of simple trigonometric series and expansions of simple trigonometric functions in power series.

Pure Geometry.—Harmonic ranges and pencils, radical axis and centre of a system of circles, poles and polars with respect to a circle, orthogonal circles, and projection applied to rectilineal figures.

Analytical Geometry.—Straight lines and circles, parabola, ellipse and hyperbola, treated by rectangular and polar coordinates, reduction of general quadratic equation to standard forms.

Differential Calculus.—Limits, differentiation of a function of a single variable, successive differentiation, use of Taylor's and Maclaurin's theorem, indeterminate forms, maxima and minima for a single variable, partial differentiation, tangents, normals, asymptotes, double points, curvature, evolutes, involutes and envelopes simple curve-tracing.

Integral Calculus.—Standard forms, integration by substitution and by parts and other simple methods, simple reduction formulæ, rectification and quadrature of plane curves, surface and volume of solid of revolution, centres and moments of inertia.

Differential Equations.—Ordinary equations of the first order and equations of second order readily reducible thereto, linear equations of second order with constant coefficients, with easy geometrical and physical applications.

APPLIED MATHEMATICS.

Statics.—General conditions of equilibrium of a particle and of a rigid body under the action of forces in one plane; the principle of virtual work; simple machines; friction; centre of gravity; Hooke's Law; elementary properties of uniform catenary.

Hydrostatics—Fluid pressure, centre of pressure in simple cases, total and resultant pressure on immersed surfaces, conditions of equilibrium (including metacentre and stability, the formula $\frac{AK^2}{V}$ being assumed) of a float-

ing body, specific gravity, properties of gases, machines depending on fluid pressure, determination of height by barometer.

Dynamics.—Velocity and acceleration, Newton's Laws of motion, work and energy, rectilinear motion, projectiles in a vacuum, circular and harmonic motion, simple and cycloidal pendulum, impact, moments of inertia for simple bodies, d'Alembert's Principle, effective force and couple with simple applications.

Spherical Trigonometry—including simple relations between trigonometric functions of the sides and angles of a spherical triangle, and solution of right-angled triangles.

Astronomy.—Systems of co-ordinates of a star and their determination, astronomical instruments, phenomena of diurnal motion of the earth, determination of sun's annual path, the seasons, the elliptic form of earth's orbit, Units of time, equation of time, reduction and conversion of time, astronomical refraction, parallax, aberration, orbit of moon, harvest moon, eclipses and occultations, determination of latitude and longitude.

HONOURS.

(For the Examination of 1927).

The number of papers will be six—

1. Algebra, Trigonometry, Theory of Equations with Determinants.

2. Pure Plane Geometry and Analytical Geometry of two and three dimensions.

3. Calculus and Differential Equations.
4. Statics and Hydrostatics.
5. Particle Dynamics and Elementary Rigid Dynamics.
6. Either—
 - (a) Spherical Trigonometry, Spherical Astro nom
and Geometrical Optics.
 - or,
 - (o) Elementary Electricity, Magnetism and Attrac
tions.

The detailed syllabus is as follows :—

Algebra—fuller treatment of pass course with summation of series.

Trigonometry—fuller treatment of pass course with summation of series.

Theory of Equations—as in Burnside and Panton, Vol. or in Cajori.

Determinants—as in Burnside and Panton, Vol. II, Chapter I.

Pure Geometry—Ranges and pencils, cross ratios. Projections, orthogonal and conical, Desargue's theorem, harmonic properties of simple figures, poles and polars and other simple projective properties of conics, circular points at infinity ; reciprocation ; Pascal's and Brianchon's theorems.

Analytical Geometry—fuller treatment of pass course with systems of conics including the use of oblique co-ordinates ; plane, straight line, reduction of general quadratic to standard forms, properties of a quadratic surface referred to its principal axes and also confocal conicoids referred to principal axes.

Differential Calculus—fuller treatment of pass course with Taylor's theorem, maxima and minima of functions of two or more variables, multiple points, change of variables; Jacobians.

Integral Calculus—fuller treatment of pass course with definite integrals; including B and T functions, multiple integrals, volumes and surfaces of solids; use of Fourier's series.

Statics—fuller treatment of pass course with addition of graphical statics, strings in two dimensions, centres of gravity, virtual work, stability; analytical treatment of systems of forces in two and three dimensions.

Hydrostatics—fuller treatment of the Pass Course.

Dynamic—of a particle in two dimensions, and elementary Rigid Dynamics in two dimensions.

Spherical Trigonometry and Spherical Astronomy—a fuller treatment of the pass course with addition of solution of triangles, precession, nutation and figure of the earth.

Geometrical optics—reflexion and refraction with application to mirrors, prisms, lenses and simple combination, excluding spherical and chromatic aberrations.

Elementary Electricity, Magnetism and Attractions—Properties of potential, lines of force, air condensers simple cases of images and inversion, Ohm's Law with simple applications, galvanometers, attraction and potential of rods, discs, spheres, circular cylinders, Gauss' Laplace's and Poisson's theorems.

Physics.

(For the Examination of 1926)

The Examination will consist of two papers and a practical test.

For the year 1926 the subjects of the papers will be—

- (1) the General Properties of Matter, Sound and Heat
- (2) Light, Electricity and Magnetism.

The following is the detailed syllabus :—

General Properties of Matter—

Law of Gravitation. Elementary problems on attraction, e. g., attraction of a sphere and spherical shell on internal and external points, attraction of a disc and attraction of any closed surface on a point just outside. Definition of potential and its determination in simple cases. Definition of equipotential surface and lines of force and elementary proposition connected therewith.

Definition of Elasticity. Hooke's Law. Modulus of rigidity, determination of Young's modulus. Bulk modulus. Definition of Moment of Inertia and Radius of Gyration. Calculation of Moment of Inertia of a sphere, a rectangular bar and a cylinder about any axis. Boyle's Law. Air pumps. Vibration of a simple pendulum and Simple Harmonic Motion. Surface tension and its determination. Viscosity. Energy. Units and dimensions.

Sound —

Nature of sound waves. Determination of velocity of sound and its connection with the elasticity and density of the medium. Doppler's principles. Reflection and refraction of sound. Methods of determining the frequency

and wavelength of notes. Interference of sound waves. Vibrations of strings and columns of air. Experimental methods of analysing complex sound. Lissajous Figures. Applications of the equation $Y = a \cos 2\frac{\pi}{\lambda} (vt - x)$ to problems of interference.

Heat—

Construction and theory of thermometers. Co-efficients of expansion and their variation with temperature. Unit of heat and calorimetry. Specific heat. Latent heat. Vapour pressures and their determination. Hygrometry. Radiant heat. Its reflection, refraction, absorption and emission. Prevost's Theory of Exchange. Conductivity. Comparison of conductivities of solids. Indicator diagrams. First and second laws of Thermo-dynamics. Carnot's heat Engine. Carnot's Function and Thomson's Scale of Temperature. Determination of Mechanical equivalent of heat. Deduction of simple gas laws from Kinetic Theory of gases. Change of state and latent heat. Van der Waal's equation.

Light—

Determination of the velocity of light. Elementary mathematical formulæ relating to the reflection and refraction of light. Mirrors. Thin lenses. Dispersion and spectrum analysis. The construction of achromatic lenses. Undulatory theory of light. Rectilinear propagation of light. Deduction of the laws of reflection and refraction. Interference of light. Newton's rings and colours of thin films.

Diffraction. Double refraction in uniaxial crystals. Plane, circularly and elliptically polarised light. Rotation of plane of polarisation. Use of polarimeter. Telescopes and microscopes. Ramsden's and Huyghen's eye-pieces. Elementary knowledge of the structure of the eye and defects of vision.

Magnetism—

Methods of drawing lines of magnetic force. Magnetic potential. Action of one magnet on another placed broad-side or end on. Determination of magnetic moments. Determination of H and Dip. Magnetic Induction. Coefficients of magnetisation and induction. Permeability. Ferro, para and diamagnetism. Gauss's Theorem.

Electricity—

Proof of law of Electrical repulsion. Specific inductive capacity. Quadrant and absolute electrometers. Calculation of potential, capacity and energy in simple cases. Frictional and inductive machines. The electric current. Galvanometer. Determination of resistances. Ohm's law. Joule's determination of electro-motive force and internal resistance of batteries. Properties of a conjugate system of conductors. Electrolysis and electro-chemical equivalents. The Thermo-electric current. Peltier and Thomson effects. Electro-magnetic induction. Induction coil. Growing and decaying current. Units. Definitions of Coulomb, Ampere, Volt, Farad, Ohm, Watt and Joule. Elementary theory of dynamos, motors and transformers. Electrical measuring instruments. Generation and detection of Electro-magnetic waves; their relation to light. Discharge of electricity through gases. cathode rays. X-rays. Elements of radio-activity.

Experiments—

1. The balance.
2. Determination of co-efficient of friction between a rope and a fixed pulley.
3. Determination of Young's modulus by stretching.
4. Determination of Young's modulus by bending of a bar.
5. Modulus of Torsion.
6. Moment of Inertia of a fly wheel.
7. Determination of surface tension.
8. Determination of pitch by Sonometer.
9. Determination of height with a Sextant.
10. Determination of Refractive index by the microscope.
11. The Spectrometer.
12. Focal lengths of convex and concave lenses.
13. Magnifying power of microscopes and telescopes.
14. Photometry.
15. Determination of wavelength by the diffraction grating.
16. Polariscopes.
17. Weight Thermometer.
18. Effect of stem exposure on thermometer readings.
19. Co-efficient of linear expansion.
20. Law of cooling.
21. Constant volume air thermometer.
22. Constant pressure air thermometer.
23. Dew point and Humidity.
24. Mechanical determination of J
25. Moments and neutral points.
26. Determination of H.

27. Determination of Dip.
28. Magnetic field due to straight current.
29. Variation of strength of magnetic field due to a circular current with the distance along the axis.
30. Comparison of Electromotive forces.
31. Mance's method.
32. Resistance of accumulators.
33. Resistance of Galvanometers.
34. Use of Post-office Box.
35. Potentiometer.
36. Electrical determination of J.
37. Determination of E.C. E. of Cu.
38. Comparison of capacities.

HONOURS.

(For the Examination of 1927).

There will be five papers and a practical examination :—

- (1) Properties of matter and sound.
- (2) Heat (Kinetic Theory of gases and Thermodynamics).
- (3) Light.
- (4) Electricity and Magnetism.
- (5) Electron Theory.

The following is the detailed syllabus :—

(In addition to what is included in the pass course.)

General Properties of Matter—

Theory of compound Pendulums. Determination of Gravitation constant. Simple theory of Elasticity. Theory of surface tension. Viscosity of liquids and gases. Compression and dilatation of liquids. Modern air pumps. Hertz's theory of impact. Diffusion. Elementary theory of waves and ripples.

Sound.—Fourier's theorem. Its application to vibration of strings. Theory of singing flames. Forced vibration and maintenance of vibrations. Musical Scale. Theory of Vowel sounds. Combinational tones. Concord and Discord. Elementary theory of vibration of bars, plates and membranes. Plane waves of sound. Simple theory of Resonators and pipes.

Heat.—Measurement of high and low temperature. Debye's theory of specific heat. Andrew's experiments. Conductivity of solids, liquids and gases and its absolute determination. Radiation. Deduction of laws of radiation. Solar constant. Six thermodynamic formulæ. Correction of gas thermometers. Entropy. Kinetic theory of gases and molecular dimensions. Quantum theory. Nernst's Heat Theorem.

Light.—Nodal points, cardinal points. Interference of polarised light. Fresnel's theory of double refraction in crystals. Spectroscopy of infra-red and ultra-violet Series spectra. Elements of Electro-magnetic theory of light. Anomalous Dispersion. Elementary knowledge of the effect of Electricity and Magnetism on light.

Electricity.—Discharge of a Leyden jar. Wireless Telegraphy, Telephony and Transmission of Photographs. Transformers. Alternating currents. Measurements of strength of magnetic field.

Electron Theory:—Conduction of electricity through gases. α , β , and γ rays. Modern views of electricity. Canal rays. Structure of atom. Relativity.

Experiments.—

(1) Kater's Pendulum.

(2) Modulus of torsion.

- (1) Dynamical method.
- (2) Statical method.
- (3) Viscosity of liquids.
- (4) (1) Surface tension.
 - (2) Angle of contact.
- (5) Stroboscopic determination of frequency.
- (6) Kundt's tube.
- (7) Melde's Experiments.
- (8) Clement and Desormes' method.
- (9) Conductivity of copper.
- (10) Determination of local time.
- (11) Calibration of a spectroscope.
- (12) Variation of refractive index of a liquid with temperature.
- (13) Polarimeter.
- (14) Newton's rings.
- (15) Bi-prism.
- (16) Elliptically and circularly polarised light.
- (17) Carey Foster's Bridge.
- (18) Platinum thermometer.
- (19) Thermo-couple.
- (20) Standardisation of a ballistic galvanometer.
- (21) H. by Inductor.
- (22) Self-induction.
- (23) Mutual induction.
- (24) Hysteresis curve.
- (25) Quadrant Electrometer.

Chemistry.

(For the examination of 1926.)

The examination in chemistry will comprise two papers and a practical examination. Candidates must gain minimum pass-marks in the practical examination as well as pass in the total of the papers in the Science subjects.

Atomic theory, Avogadro's hypothesis and its application. Determination of equivalents. Specific heats of elements and compounds. Isomorphism. The periodic classification of elements. Methods of determining atomic and molecular weights. Kinetic theory of gases. Laws of mass action and its applications. Ionic theory of solutions. Osmotic pressure. Influence of solutes on freezing and boiling points. Laws of Electrolysis, electro-chemical equivalents, determination of conductivity, transport numbers, Acidity of acids and bases. Elementary ideas about catalysis and colloids. Elements of spectrum analysis and thermochemistry.

Inorganic Chemistry.—The occurrence, preparation and properties of the following elements and their important compounds treated especially with regard to the periodic classification. Outlines of the main metallurgical processes of the metals indicated by an asterisk. Hydrogen, Argon, Helium, Li, *Na, *K, *Cu, *Ag, *Au, Mg, Ca, Sr, Ba, Zn, Cd, *Hg, B, *Al, C, Si, Sn, *Pb, N, P, As, Sb, Bi, O, S, Cr, F, Br, Cl, I, Mn, *Fe, Co, *Ni, and *Pt.

Practical Inorganic Chemistry.—Qualitative analysis of mixtures of substances containing not more than four radicals positive or negative by dry or wet methods:—

NH₄, Na, K, Mg, Ca, Sr, Ba, Zn, Mn, Ni, Co, Al, Cr, Fe, Cu, Bi, Hg, Cd, As, Sb, Sn, Pb, Ag, acid radicals:—Co₃, NO₂, S, SO₃, SO₄, F, Cl, Br, I, NO₃, ClO₃, CH₃COO, *also borates, oxalates, phosphates.

Acidimetry and alkalimetry. Titration of Iron with Potassium permanganate and dichromate, standardisation of permanganate by oxalic acid

Gravimetric estimation of Cu, Ag, Pb, Zn, Fe, Al. Sulphuric acid, hydrochloric acid radicals.

Organic Chemistry.—The following indicates the scope of the Examination for the B.Sc. pass degree organic chemistry. The comparison and relation of some of the typical carbon compounds, isomerism including optical isomerism. Purification of organic substances, distillation, crystallisation. Criteria of purity, for example, boiling point, melting point. Methods of ultimate analysis of organic compounds. Calculation of molecular weights from empirical formula. Constitutional formulæ.

The modes of occurrences, general methods of preparation, characters, constitutional formulæ of the first five members of saturated hydrocarbons and the first two members of acetylene and olefines with their simple and important derivatives.

The preparation, character and the constitutional formulæ of the simple derivatives of the saturated hydrocarbons should also be studied.

Special attention should be paid to the following compounds: Glycol, Glycerine, Oils and fats, Soap (Glycerides of palmitic, Stearic and Oleic Acids) treated in a descriptive manner. Succinic, Tartaric, Citric and Lactic acids. Urea.

General properties and reactions of carbohydrates including their manufacturing processes, glucose fructose, saccharose and starch.

The distinction* between fatty and aromatic compounds.

Benzene, toluene, monochlorobenzene, chlorotoluenes, benzylchloride, nitrobenzene, aniline, diazobenzenesulphonic acid, benzaldehyde, benzoic acid, benzenesulphonic acid, benzoyl chloride, benzylalcohol, o-phthalic acid, salicylic acid, phenol, pyrogallol, naphthalene, α - and naphthol.

Practical Organic Chemistry.—Identification of C, H, N, S, and P and halogens qualitatively in organic compounds. Determination of melting and boiling points.

Identification of common organic compounds :—Methyl and Ethyl alcohols, Glycerine, Formaldehyde, Acetaldehyde, Acetone, Formic and Acetic acids, Oxalic acid, Tartaric acid, Citric acid, Ethyl ether, Ethyl acetate, Cane sugar, Starch, Chloroform, Iodoform, Chloral hydrate, Urea, Benzene, Phenol (Carbolic Acid), Benzoic and Salicylic acids, Aniline.

Preparation of ethylbromide, ethylene, ethylene dibromide, ethylalcohol (by fermentation), ethyl ether, ethyl acetate, soap, acetaldehyde, iodoform, formic and acetic acids, nitrobenzene and aniline.

Honours.

(For the Examination of 1927).

The Honours examination in Chemistry will comprise four papers and a practical examination. Candidates must gain minimum pass marks in the practical examination as well as pass in the total of the papers in Chemistry.

Physical Chemistry—Atomic theory, Avogadro's Hypothesis and its application. Determination of equivalents. Specific heats of elements and compounds. Methods of determination of atomic weights. Kinetic Theory. Specific heats at constant pressure and constant volume. Determination of atomic weights of monatomic gases. Behaviour of gases under high pressure. Liquefaction of gases. Van der Waal's equation. Critical point, methods of determining the critical constants. Vapour pressure. Vapour density. Dissociation and abnormal vapour densities. Application of kinetic theory to dissociation of gases. Determination of vapour density. Additive properties of mixture of gases, of liquids and of solids. General properties of liquids:—Vapour pressure, the boiling point. Vapour pressure and boiling point of mixed liquids (including pairs of non-miscible and partially miscible liquids). Fractional distillation under reduced pressure.

The properties of dilute solution, osmotic pressure—direct and indirect methods of determining osmotic pressure, relation between gases and osmotic pressure. Influence of solute on freezing and boiling points, determination of molecular weights of dissolved substances, molecular association and dissociation. Determination of molecular weights of liquids from their surface tension.

Electro-chemical character of the elements. The laws of electrolysis. Ionic and hydrate theory of solution. Velocity of ions, transport number. Determination of conductivity. Strength of acids and bases. Action of one electrolyte on another containing a common ion. Solubility product. Theory of indicators. Simple concentration cells.

Laws of mass action and chemical equilibrium. Chemical dynamics. Phase rule. Catalysis. Notion about colloids.

The relation between the physical properties, such as, boiling point, molecular volume, molecular refraction molecular rotation of compounds, and their chemical composition and constitution.

Spectrum analysis. Elements of Radioactivity. Thermo-Chemistry. Elements of crystallography. Elementary ideas about isotopes, isobars and structure of atoms.

Practical Physical Chemistry.—Determination of densities of gases, e.g., CO_2 ; determination of vapour density by Victor Meyer's method, determination of equivalents of Zn or Mg by displacement of hydrogen determination of molecular weights of substances by boiling and freezing point methods.

Density of liquids. Determination of solubility, Viscosity, Spectroscope (identification of unknown elements by plotting wave length curve with known elements that are volatile in the Bunsen flame).

Determination of partition co-efficient. Heat of neutralization of acids and bases. Electric conductivity Velocity of chemical reaction of the first order, i.e. hydrolysis of methyl acetate in presence of HCl , Polari meter. Velocity of inversion of cane sugar.

¹ History of Chemistry.

(a) Historical side of chemical development.

(b) Personal side.

From the time of Boyle to the present time, short life and works of the following chemists :—

Boyle, Joseph Black, Scheele, Priestley, Cavendish Lavoisier, Dalton, Davy, Berzelius, Faraday, Liebig

Pasteur, Hofmann, Berthelot, Thomsen, Cannizzaro, Mendeleef, Bunsen, Dumas, Graham, Victor Meyer, Ramsay, Curie, Moissan, Baeyer, Emil Fischer, Van't Hoff, Arrhenius, Nernst, Roscoe.

Inorganic Chemistry.—In addition to the pass course the following is added:—

The occurrence, preparation and properties of the following elements and their chief compounds studied from the stand-point of the periodic classification.

Rare gases of the atmosphere, Rb, Cs, Be, Ra, Mo, Ti, Se, Te, In, Tl, Ce, Th, V, W, U, Pd, Ir and Nt, Study of the Theory of Valency, allotropy, colloids, elementary ideas on intermetallic compounds, isotropism, crystalline structure and isomorphism.

Practical Inorganic Chemistry—

Besides what is prescribed for the pass course:—

(1) quantitative analysis including Volumetric determination involving, the use of iodine and thiosulphate processes, e.g., Cu, H_2SO_3 , MnO_2 . Bleaching powder and arsenious oxide,

(2) the estimation of chlorides and cyanides and thiocyanates by titration with silver nitrate.

(3) Gravimetric determination of Mn, PO_4 , Ca, Mg, Ni, Cr, CO_3 , C_2O_4 , NO_3 (by Lunge's Nitrometer) Ammonia (by direct and indirect methods).

Determination of ferrous and ferric iron in an ore. Qualitative and quantitative analysis of simple minerals such as dolomite, magnesite, calcespar, pyrites.

Analysis of silver, nickel and brass coins.

Preparation of Carbonate-tetrammine cobalt nitrate. Chloropentammine cobalt chloride.

Simple gas analysis, Qualitative analysis of mixtures containing 6 radicals given in Pass Course including silicate and thiosulphate.

Organic Chemistry—

Fuller treatment of the aliphatic hydrocarbons as given in the Pass Course with their important allied compounds and derivatives.

General knowledge of mercaptans, Cyanogen compounds, organometallic compounds, aminoacids, acetoacetic and malonic esters.

Fuller treatment of the aromatic hydrocarbons as given in the Pass Course with their important allied compounds and their derivatives. General knowledge of hydrazines, azo compounds, ketones, acid chlorides, anhydrides, amides, esters, quinones. A general knowledge of the terpenes, dyes and alkaloids, benzidine, phenyl methanes, naphthalene, anthracene, furfurane, thiophene pyrrole, pyridine, quinoline and their important derivatives.

Stereo isomerism of carbon and nitrogen, Geometrical isomerism, Tautomerism, Condensation.

Practical Organic Chemistry—

The mixture for qualitative analysis may include not more than two of the substances, from the following list: —

Aliphatic—

Methyl alcohol, Ethyl alcohol, Glycerol, Formaldehyde, Acetaldehyde, Acetone, Formic acid, Acetic acid, Oxalic acid, Tartaric acid, Citric acid. Ethyl ether, Ethyl

acetate, Cane sugar, Grape sugar, Starch, Chloroform, Iodoform, Chloral hydrate, Acetamide, Urea, Benzene, Phenol, Benzaldehyde, Benzoic acid, Salicylic acid, Nitrobenzene, Aniline.

Questions may also be set on the quantitative estimation of C, H, N, S, P and halogens.

Determination of hydroxy, methoxy, ethoxy, and carboxy groups, estimation of molecular weights of simple organic acids and a typical organic base.

Attention should also be paid to the following processes :—

Esterification, acetylation, nitration, sulphonation, hydrolysis and reduction.

Purification of organic compounds, distillation under reduced pressure, steam distillation, uses of filter pump and Buchner's funnel.

In addition to the preparation given in the Pass Course the following substances would also be prepared. Ethyl oxalate, Oleic acid, Urea, Allyl alcohol, Acetanilide, Tribromaniline, Phenol, Benzoic acid, Benzene sulphonic acid, Quinone, Hydroquinone from quinone, Diazonium salts. From Naphthalene,—naphthalene tetrachloride phthallic acid, phthallic anhydride, fluorescein, eosin, Salicylic acid from Phenol. Phenylglucosazone, Benzylchloride, Orange II, Methylorange.

Zoology.

(For the Examination of 1926).

The examination will comprise two papers and a practical examination. Candidates must obtain the minimum pass marks in the practical examination as well as in the total of the theory paper.

The following syllabus is prescribed :

The general principles of Biology treated in an elementary manner including the theory of Evolution with general notions of variation, heredity and adaptation. Recapitulation hypothesis.

The elementary principles of the Geological and Geographical distribution of animals.

Description of animal cell and tissues treated in some detail.

Sexual and asexual modes of reproduction, parthenogenesis, alternation of generations, metamorphosis.

The structure, habits, and development of Non-chordata as illustrated by--

Protozoa	..	Amœba, Paramœcium, Vorticella, and Malarial parasite.
Porifera	..	Sycon.
Cœlenterata	..	Hydra and Obelia.
Platyhelminthes	..	Tænia.
Nemathelminthes	..	Ascaris.
Annulata	..	Pheretima, Nereis and Leech.
Echinodermata	..	Starfish.
Arthropoda	..	Prawn, Periplaneta, Anopheles and Scorpion.
Mollusca	..	Fresh water Mussel (Lamellidens or other type) and Ampullaria.

Principal characteristics, structure, and habits of chordata as illustrated by—

A. ACRANIA—

Hemichordata	..	Balanoglossus.
Urochordata	..	Ciona or any other ascidian.
Cephalochordata	..	Amphioxus.

B. CRANIATA—

Pisces	..	Carcharias or any other Elasmobranch.
Amphibia	..	The Frog.
Reptiles	..	Lizard.
Aves	..	Columba.
Mammalia	..	The General characters of Prototheria and Metatheria as illustrated by Echidna and the Kangaroo, respectively, Lepus or rat, Canis (Skull only).

The outlines of the development of Ciona, Amphioxus, the frog, chick and rabbit. Amnion and Allantois. Placentation.

The elementary physiology and histology of the various organs of the animal body as illustrated by the Frog and Rabbit.

Paper I shall comprise the Non-chordata, cell and tissue, the subject of Reproduction and Histology, and the general principles of Evolution.

Paper II shall comprise the chordata, elementary facts about Embryology, Physiology, Geological and Geographical distribution.

Practical Course.

Candidates will be required to show a knowledge of simple microscopic technique and to dissect or describe the following animals :—

Amœba, Paramœcium, Sycon, Hydra, Obelia, Pheretima, Nereis, Leech, Starfish, Prawn, Cockroach, Scorpion, Unio, Ampullaria, Ciona, Carcharias or any other

Elasmobranch, the Frog, Lizard, Pigeon and Rabbit, or Squirrel.

Osteology of the dogfish, the frog, lizard, fowl, rabbit, dog's skull and Echidna (Limbs and Limb-girdles only).

Note-books containing a complete record of laboratory work must be produced at the Practical examination.

BOOKS RECOMMENDED —

1. Parker and Haswell .. Text-book of Zoology
(Macmillan & Co.)
Vols. I and II.
2. Wiedersheim and Parker Comparative anatomy
of vertebrates.
3. Bourne .. Comparative anatomy
of animals, Vols. I
and II.
4. Parker and Bhatia . Text-book of Zoology
for Indian Students.
5. Dendy .. Outlines of Evolution-
ary Biology.
6. Marshall and Hurst .. Practical Zoology
(Smith Elder).
7. Thomson .. Outlines of Zoology.
8. Kingsley Comparative Anatomy
of Vertebrates.

HONOURS.

(For the Examination of 1927).

The course for Honours will include that prescribed for the pass and, in addition, a detailed knowledge of the structure, development, bionomics and classification

of all the representatives of the principal sub-divisions of each phylum of the animal kingdom.

A detailed knowledge of the animal cell and its phenomena and tissues. Various modes of reproduction.

The general principles of Biology, comprising the various theories of Evolution and the subjects of Variation, Adaptation, Inheritance and Sex.

Practical Course.

Candidates will be required to show a more detailed knowledge of microscopic technique, and to describe or dissect the following animals :—

Non-Chordata—

Amœba, Foraminifera Actinosphærium, Euglena, Trypanosoma, Monocystis, Malarial parasite. Paramœcium, Vorticella, Sycon, Spongilla. Hydra, Obelia, Physalia, Porpita, Aurelia, Sea-Anemone, Edwardsia, Aleyonarians, Corals, Hormiphora, Planaria. Liver-fluke, Tœnia. Carinella, Lineus, Ascaris, Filaria. Sagitta, Branchionus, Bugula, Flustra, Plumatella, Asterias, Echinus, Holothurian, Pedicellina. Phoronis, Terebratula, Lingula. Antedon, Pheretima, Nereis. Leeches, Serpulid, Chaetopterus, Polynœ, Tubifex, Terebella, Aphrodite, Spirorbis, Syllis, Myzostoma Sipunculus, Bonellia, Polygordius. typical representatives of all the orders of Crustacea, Trilobita, Peripatus, Centipedes, Millipedes, typical representatives of each order of the classes Insecta and Arachnida and Phylum Mollusca.

*Chordata—**(a) Aserania—*

Hemichordata .. Balanoglossus.

Urochordata .. Oikopleura, Doliolum, Salpa
Pyrosoma, Ascidians.

Cephalochordata .. Amphioxus.

(b) Craniata—

Cyclostomata .. Lampreys and Hagfishes.

Pisces .. Hypolophus sephen (Trygon).
Carcharias, chimaera (Ex-
ternal characters only), a
common bonyfish, and a Lung
fish (External characters only).

Amphibia .. The typical representatives
of Urodela, Anura and
Gymnophiona.

Reptilia .. The typical representatives of
Lacertilia, Ophidia, Rhyncoce-
phalia (skeleton only), Chelonia
and Crocodilia.

Aves .. Ratitæ (skeleton only).
Carinatae—Pigeon, Fowl (ske-
leton only) and a comparative
study of the various types
of skull.

Mammalia .. Typical representatives of each
order.

Microscopic preparations, technique, and section cutting,

Candidates must produce at the practical examination their preparations and note-books containing a complete record of laboratory work.

There will be five papers:—

	Marks
1. Comparative anatomy and embryology of the Invertebrata	100
2. Comparative anatomy of the Vertebrata ..	100
3. Palæontology, Zoogeography, and Chordate embryology as prescribed for the pass course	100
4. Theories of Evolution, Variation, Adaptation, Selection, Isolation Mimicry, Coloration of animals and instincts of animals ..	100
5. Cytology, sex, Amphimixis, Regeneration, Eugenics, Mendelism, Biometrics and Reversion	100
Practical Examination	200

Candidates must obtain minimum pass marks in the practical examination, as well as in the total of the theory papers.

BOOKS RECOMMENDED—

Comparative anatomy of Vertebrata and Invertebrata :—

1. Text-book of Zoology by Parker and Haswell, Vols. I and II.

2. Comparative anatomy of vertebrata by Wiedersheim and Parker.

3. **Treatise of Zoology**, edited by R. Lankester.
4. **Cambridge Natural History Series**.
5. **Student's Text-book of Zoology** by Sedgwick.

Evolution and General.

1. **Weismann** : The Evolution Theory.
2. **Herbert** : The First Principles of Evolution.
3. **Lock** : Variation, Heredity and Evolution.
4. **J. Smith** : The Primitive animals.
5. **Wallace** : Darwinism.
6. **Loey** : Biology and its Makers.
7. **Poulton** : Essays on Evolution.
8. **Keeble** : Plant animals.
9. **Wiley** : Convergence in Evolution.

Mendelism, Genetics and Experimental Zoology.

1. **Punnet** : Mendelism.
2. **Darbishire** : Breeding and Mendelian Discovery
3. **Walter** : Genetics.
4. **Morgan** : Experimental Zoology.

Heredity and Sex.

1. **Thomson** : Heredity.
2. **Morgan** : Heredity and Sex.
3. **Thomson and Geddes** : Sex.
4. **Walker** : Hereditary characters and their Modes of Transmission.
5. **Doncaster** : The Determination of Sex.
6. **Doncaster** : Heredity in the Light of Recent Researches.

Cytology.

1. Doncaster : Cytology
2. Hertwig : The Cell.
3. Wilson : The cell in development and Inheritance.
4. Agar : Cytology.

Distribution.

1. Heilprin : The Distribution of Animals.
2. Beddard : Zoogeography.
3. Lankester : Extinct Animals.

Embryology.

1. Marshall : Vertebrate Embryology.
2. Foster and Balfour : The elements of Embryology.
3. Balfour : Elements of comparative Embryology.

Botany.

(For the Examination of 1926.)

The examination in Botany will comprise two papers and a *practical* examination. *Candidates must gain minimum pass-marks in the practical examination as well as pass in the total of the papers in the Science subjects.*

The following syllabus is prescribed :—

1. The anatomy (including histology) of the vegetative and reproductive organs of the Phanerogamia and Cryptogamia, treated from the comparative and functional stand-points. A general knowledge of the plant cell and plant-tissues. The cell contents and their micro-chemical reactions. An elementary knowledge of plant distribution.

2. The morphology, physiology and life-histories of—

●
THALLOPHYTA—

- (a) Bacteria.
- (b) Algæ .. Pleurococcus, Ulothrix, Spirogyra, Nóstoc, Fucus.
- (c) Fungi .. Yeast, mucor or other mould:
Cystopus or other Oomycete, Nectria, Morchella or other Ascomycete, Puccinia and Agricus.

BRYOPHYTA—

- (a) Hepaticæ .. Marchantia.
- (b) Musci .. Funaria or other Moss.

PTERIDOPHYTA—

- (a) Filicinæ .. Aspidium, or other fern.
- (b) Lycopodinæ .. Selaginella.

SPERMATOPHYTA—

- (a) Gymnosperma .. Pinus.
- (b) Angiosperma A detailed knowledge of a typical flowering plant and a knowledge of typical representatives of the following natural orders:—Liliaceæ, Gramineæ, Palmææ, Ranunculacææ, Papaveracææ, Cruciferæ, Compositæ, Urticacææ (including Moracææ, and Ficacææ), Umbelliferæ, Rosacææ, Malvacææ, Leguminosæ, Acanthacææ, Solanacææ, Labiatæ, Convolvulacææ.

3. VEGETABLE PHYSIOLOGY—

- (a) The stability of the plant body:—Turgidity, tensions of tissues, stereome.
- (b) Nutrition:—Chemical constituents of the plant; the essential constituents of plant food; the absorption of water and dissolved substances; water conduction; transpiration; assimilation; the utilisation and transference of the products of assimilation; reserve materials; special processes of nutrition-parasitism, saprophytism, etc.
- (c) Respiration:—General facts; the production of heat; the movement of gases in respiration.
- (d) Growth:—General facts; the effect of external influences on growth.
- (e) Movement:—Protoplasmic movements; imbibition movements; heliotropism; geotropism; contact stimuli and their effects; movements of irritability.
- (f) Reproduction:—Vegetative reproduction; sexual reproduction including double fertilisation; cross and self-pollination; dissemination and germination of seeds.

PAPER I shall comprise the Morphology, Physiology and Life-histories of the Cryptogamia.

PAPER II ,, the Morphology, Physiology and Life-histories of the Flowering Plants, and general Plant Physiology.

Practical Course.

The dissection of plants and parts of plants. The preparation, staining, and study of microscopical sections of plants and the principal varieties of plant tissues. The uses of stains and other re-agents, and the micro-chemical reaction of protoplasm, starch, and cellulose with its derivatives.

A practical study of the typical plants enumerated under section 2 ; the referring of plants and parts of plants to their appropriate position in the given schedule of classification.

The description of plants and parts of plants in technical language.

Simple experiments in Plant Physiology.

Note-books containing a complete record of laboratory work must be produced at the practical examination.

Text-books recommended :—

SCOTT : Structural Botany (A. and C. Black).

BOWER and GWYNNE-VAUGHAN : Practical Botany for Beginners (Macmillan).

GREEN : Text-book of Botany (Churchill).

STRAEBURGER : Text-book of Botany (Macmillan).

STRAEBURGER and HILLHOUSE : Practical Botany (Swan Sonnenschein).

COULTER BARNES and COWLES : Text-book of Botany.

WILLIS : Flowering Plants and Ferns (Cambridge University Press)

MASTER OF SCIENCE EXAMINATION.

Mathematics.

(a) PREVIOUS EXAMINATION.

(For the Examination of 1926).

The examination shall consist of four papers as follows :—

1. *Theory of Equations* :—Cubics and biquadratics ; sums of powers of roots ; methods of approximation ; determinants.

Differential Equations :—Ordinary equations of the first order ; general linear equation with constant coefficients ; linear equations of second order including transformation to standard forms and variation of parameters ; homogeneous equations and exact equations ; elements of integration by series, including Legendre's equation and the simpler properties of Legendre's functions ; Riccati's equation ; simultaneous differential equations with constant coefficients ; total differential equation ; partial differential equations including standard forms ; Lagrange's, Charpit's and Monge's methods and partial linear equations with constant coefficients.

2. *Differential Calculus* :—Taylor's Theorem ; maxima and minima of functions of two or more variables, multiple points ; change of variables ; Jacobians.

Integral Calculus :—Definite integrals including B and Γ functions ; multiple integrals ; volumes and surfaces of solids, use of Fourier's series.

3. *Pure Geometry*:—Ranges and pencils ; cross-ratios, projections, orthogonal and conical ; Desargue's theorem ; harmonic elementary figures ; poles and polars and other simple projective properties of conics ; circular points at infinity, reciprocation, Pascal's and Brianchon's theorems.

Analytical Geometry of three dimensions:—Plane straight line, reduction of general quadratic equation to standard forms ; properties of a quadric surface referred to its principal axes.

4. *Analytical Statics*:—Strings in two dimensions centres of gravity ; virtual work ; stability ; systems of forces in two or three dimensions.

Dynamics of a particle in two dimensions.

(b) FINAL EXAMINATION.

(For the Examination of 1926).

The examination shall consist of four papers as follows :—

1. *Analytical Geometry in two dimensions* :—Homogeneous co-ordinates ; tangential co-ordinates ; families of conics ; invariants and co-variants.

Analytical Geometry in three dimensions :—Systems of quadrics ; surfaces and curves in space.

2. *Algebra* :—Convergence of infinite series and of infinite products ; trigonometrical expansions ; summation of series ; general continued fractions ; general properties of integral numbers.

Theory of aggregates :—Cantor's and Dedekind's theory of irrational numbers ; linear sets ; limiting points and derivatives ; distribution of points of a set ; enumerable aggregates ; power and contents of an aggregate.

Theory of Functions of a Real Variable :—Continuity, differentiability, integrability of a function ; differentiation and integration of infinite series ; maxima and minima of a continuous function ; mean value theorems in differential and integral calculus ; Riemann's definition of the definite integral ; improper integrals ; Cauchy's principal value of an improper integral.

Theory of Functions of a Complex Variable :—Conformal representation ; integration of a regular function ; Cauchy's theorem, residues ; development in power series ; Taylor's and Maclaurin's series and Laurent's series.

3. *Statics* :—Attractions and potentials of rods, discs and spheres, Gauss's, Laplace's and Poisson's theorems.

Rigid Dynamics in two and three dimensions, including motions of spheres rolling on a plane, cone or sphere, and the simple gyroscope ; Euler's and Lagrange's equations and their applications to simple systems.

4. *Either (a) Hydrostatics* :—Laws of Fluid pressure ; general conditions of equilibrium in a fluid ; uniformly rotating liquid ; equilibrium of floating bodies, including metacentric formulæ, equilibrium of gaseous liquids (excluding capillarity and oscillation of floating bodies).

Hydrodynamics :—Lagrangian and Eulerian methods, continuity, bounding surface condition, velocity potential and current function, sources and sinks, motion of circular and elliptic cylinders in two dimensions, motion of a sphere in a liquid ; simple waves, vibrations of a string and of air in tubes.

Or,

(b) *Spherical Trigonometry* including the general properties of spherical triangles.

Geometrical optics :—Reflection and refraction at plane surface ; the optical hodograph ; deviation ; systems of thin coaxial lenses ; refraction through media bounded by coaxial spherical surfaces, Cotes' formulæ ; thick lenses ; achromatism ; Malus' theorem : reflection for oblique incidence on a spherical surface ; focal lines ; optical instruments ; rainbow.

Spherical Astronomy as far as is necessary for the explanation of simple phenomena.

The following books are recommended :—

BESANT and RAMSAY : Hydromechanics, Pts. I and II.

TODHUNTER and LEATHAM : Spherical Trigonometry.

HERMAN : Geometrical Optics.

BALL : Spherical Astronomy.

Physics.

PREVIOUS EXAMINATION

(For the Examination of 1926.)

N.B.—Candidates for the M.Sc. Examination will be required to pass in the written as well as in the practical examination separately.

The subjects of examination are :—

Properties of Matter.

Heat.

Sound.

The scope of the examination is approximately indicated by the following text-books :—

POYNTING and THOMSON : Properties of Matter.

PRESTON : Theory of Heat.

PLANCK : Thermodynamics, Parts I, II and III (118 pages of Ogg's Translation).

BARTON : Sound.

The following may also be consulted :—

JEANS : Kinetic Theory of Gases.

MAYER : Kinetic Theory of Gases.

RAYLEIGH : Sound, Vols. I and II.

LAMB : Dynamical Theory of Sound.

DONKIN : Acoustics.

HELMHOLTZ : Sensations of Tone.

MELLOR : Higher Mathematics for students of Physics and Chemistry.

There will be two papers as follows :—

I.—Heat.

II.—Properties of Matter and Sound.

Practical Examination.

WATSON : Practical Physics.

STEWART and GEE : Practical Physics, Vol. I.

SCHUSTER and LEES : Advanced Exercises in Practical Physics.

KOHLRAUSCH : Physical Measurement.

FINAL EXAMINATION.

(For the Examination of 1926.)

N.B.—Candidates for the M.Sc. Examination will be required to pass in the written as well as in the practical examination separately.

The subjects of examination are :—

Light.

Electricity.

Magnetism.

The scope of the examination is approximately indicated by the following text-books :—

HOUSTON : A Treatise on Light.

PRESTON : Theory of Light.

BALY : Spectroscopy, Chapters XIII, XIV, XV and XVI.

J. J. THOMSON : Elements of the Mathematical Theory of Electricity and Magnetism.

EWING : Magnetic Induction in iron and other metals.

S. G. STARLING : Electricity and Magnetism (Published by Longmans)

The following may be consulted :—

DRUDE : Optics.

SCHUSTER : Optics

WOOD : Physical Optics.

JEANS : Electricity and Magnetism.

LIVENS : Electricity and Magnetism.

J. J. THOMSON : Conduction of Electricity through gases.

RUTHERFORD : Radio-activity.

There will be four papers as follows :—

There will be two papers on light including the electro-magnetic theory of light, and two papers on Electricity and Magnetism.

I.—Light including the Electro-Magnetic Theory of Light

II.— Ditto.

III.—Electricity and Magnetism.

IV.— Ditto.

WATSON : Practical Physics.

STEWART and GEE : Practical Physics, Vol. II.

SCHUSTER and LEES : Advanced Exercises in Practical Physics.

MANN : Manual of Advanced Optics.

Physics.

(FOR THE EXAMINATION OF 1927.)

1. The candidate will be examined in two papers. The first paper will be on "Electricity and Magnetism" and deal with the advanced parts of papers 4 and 5 prescribed for the Honours B.Sc. examination. (The details of the course are shown below).

2. The second paper will be of a special nature, and the student will have the option of choosing it from any one of the following groups :—

(a) Spectroscopy including Quantum theory, Radiation, Electro and Magneto-optics.

(b) X-rays.

(c) Advanced Heat (including Pyrometry, Thermodynamics, Kinetic Theory of Gases, Conduction of Heat).

(d) Advanced Sound.

(e) Wireless Telegraphy and Telephony.

(f) Mathematical Theory of Electricity and Magnetism including Electromagnetic Theory of Light and Theory of Relativity.

(g) Geometrical Optics and Optical Instruments.

The practical paper will cover both courses 1 and 2. In lieu of examination in the practical subject, the student may offer a piece of original work under the direction of any one of the University teachers, or may be asked to set up specialised experiments in the special subject chosen by him.

SYLLABUS.**FIRST PAPER.****ELECTRICITY AND MAGNETISM.**

Theory of measuring instruments, mathematical theory of electricity and magnetism, Maxwell's equations, electromagnetic waves; dynamos, motors, alternators and storage batteries.

Conduction of electricity through gases; ionisation currents; mobility of ions; diffusion of ions. Determination of $\frac{e}{m}$, determination of the charge on the electron. Elements of radioactivity. The nuclear theory of the atom. Determination of the nuclear charge and the number of electrons in the atom. Positive ray analysis.

Bohr's theory of the hydrogen spectrum; application of Bohr's theory to spectrum analysis. Ionisation potential, photo-electricity; thermionics, X-ray spectra.

Dynamics of the electron; variation of the mass of the electron with velocity; radiation from accelerated electrons; theory of magnetons. Electrical theory of valency.

SPECIAL PAPER.**X-rays.**

Phenomena in vacuum tubes; generation of X-rays; high voltage generators; X-ray bulbs; different methods of setting up an X-ray establishment.

Study of properties of X-rays, secondary X-rays; characteristic X-rays, absorption coefficient of characteristic X-rays, ionisation by X-rays, scattering of X-rays.

Laue's discovery of the diffraction of X-rays by crystals, Bragg's method of reflection. Crystal analysis by Bragg's method, the Debye-Scherrer method, and the Laue method. X-ray spectrometers: Moseley's work on the measurement of wavelength of characteristic X-rays Siegbahn's work; X-ray absorption spectra.

Spectroscopy.

Various methods of producing spectra; prism spectroscopes of different types; concave grating, echelon grating. Lummer plates; Littrow spectrograph, vacuum grating spectrograph. Infra-red Spectrometer. Photography of the Infra-red and ultra-violet spectra. Determination of wave lengths by interference methods. Band spectra; Series-spectra, series-formulæ and notation. Relation of atomic constants and series-spectra; general principles of the quantum theory of line spectra; Bohr's theory; Resonance and Ionisation potentials. Energy diagrams. Correspondence Principles. Kossel and Sommerfeld's displacement law. Emission and absorption spectra of elements; Stark effect. Zeeman effect. Fine structure of lines; Thermal excitation; Raies ultimes. Laws of emission and absorption; continuous spectra from black bodies and other substances. Application of spectroscopy to astrophysics. Theories of dispersion and absorption. Resolving Power.

PRACTICAL WORK.

GENERAL COURSE.

[The candidate is expected to have carried out a decent amount of practical work on the lines suggested below.]

(a) Conduction of electricity through gases.

1. Measurement of ionisation currents in gases due to different ionising agencies.

2. Rate of recombination of ions.
3. Mobility of ions.
4. Measurement of $\frac{e}{m}$ by the method of crossed fields.
5. Measurement of the charge on the electron by Millikan's method.

(b) Radioactivity.

1. Practice with α -ray electroscopes.
(measurement of leakage current, strength of a radioactive sample, etc.)
2. Counting the α particles,
3. Ionisation by α , β and γ -rays,

(c) X-rays.

1. Fitting up of an X-ray establishment for medical purpose.
2. Diffraction of X-rays by the Lane method.

(d) Wireless telegraphy.

1. Practice with a wireless receiving set.
2. Drude's experiment on the propagation of electric waves along wires.

(e) Measurement of photo-electric currents.

(f) Measurement of thermionic currents.

(g) Alternate current measurements. Measurement of self induction, mutual induction, etc.

SPECTROSCOPY.

(*Praetical Course.*)

1. Management and adjustment of arc and spark.
2. Photographing the spectrum with an ordinary prism spectroscope. Constant deviation spectroscope. Quartz spectroscope.

3. To determine the chemical composition of any mixture with a spectroscope.

4. Determination of wavelength by the prism spectrograph using the Hartmann formula.

5. Practice with the concave grating.

6. Photographing the iron arc, and measurement of spectrum plates with a comparator.

7. Preparation of vacuum tubes and filling with gas.

8. Zeeman effect.

9. Infra-red spectrometer.

10. Ultra-violet spectroscopy, using Schumann plates.

11. Practice with Lummer-Gehrcke Plate.

12. The Michelson and Fabry Perot Interferometer.

X-RAYS—SPECIAL COURSE.

Practical Work.

1. Practice with X-ray tubes.

2. Bragg's reflection method of X-ray analysis.

(The wavelength, crystal constant, and determining the structure of crystals).

3. Practice with the X-ray spectrometer; wavelength of characteristic lines.

4. Absorption and scattering of X-rays.

5. Ionisation by X-rays

Chemistry.**PREVIOUS EXAMINATION.**

(For the Examination of 1926).

A B — Candidates for the M.Sc. Examination will be required to pass in the written as well as in the practical examination separately

Marks will be allotted as follows :—

Inorganic Paper	..	..	100
Organic	..	..	100
Physical	..	..	100
Record of Practical work	50	}	200
Practical Examination	150		
Total	..	..	500

In each paper questions will be set in History.

Inorganic.— The elements specified for the B.Sc. course in more detail including their modes of occurrence and chief metallurgical processes. A general knowledge of the less common inorganic compounds and important rare elements.

Standard analytical methods outside the B.Sc. courses.
Gas analysis. The use of Lunge's nitrometer.

Organic —The B.Sc. course extended so as to include the simpler synthetic dyes, non-benzenoid rings, natural bases, terpenes sugars, organo-metallic compounds, other compounds containing sulphur; the whole treated in an elementary and representative manner

The theories of geometrical isomerism, optical activity, steric hindrance.

Preparation and detection of organic compounds. Ultimate (or "elementary") analysis. Quantitative proximate (or "radical") analysis.

Physical.—The B.Sc. course extended so as to include the theory and practical methods of determination of vapour density, osmotic pressure, molecular weight, heat of reaction, velocity of reaction, strength of acids.

Electro-analysis and spectroscopy.

The phase rule, equilibrium, the periodic law, surface phenomena.

Historical.—Outlines of chemical history from the time of Boyle.

FINAL EXAMINATION.

(For the Examination of 1926).

N.B.—Candidates for the M.Sc. Examination will be required to pass in the written as well as in the practical examination separately.

Students who have passed the Previous may present any one of the following branches of Chemistry:—

(1) Inorganic, (2) Organic, (3) Physical, (4) Applied.

Notice must be sent to the Registrar by the 15th August of the branch which the student intends to present at the ensuing examination and in the case of (4) the industry of manufacture to which he is attached.

A student may present a thesis dealing with original work done by him in his selected branch in place of the second paper: he will be liable to any inquiry or examination in the subject-matter of his thesis which the examiners may see fit to impose.

Marks will be allotted in each branch as follows:—

First paper	..	..	100
Second paper or Thesis	..	..	100
Record of practical work	..	50	} .. 200
Principal Examination	..	150	
Total	..	..	400

Inorganic.—More recent discoveries, methods and theories including an acquaintance with original papers. Reaction at high and low temperatures, examination of mineral, and the practical use of the spectroscope. History of Inorganic Chemistry from the middle of the XIX century.

Organic.—More recent discoveries, methods and theories including an acquaintance with original papers

History of Organic Chemistry from the beginning of the XIX century.

Physical.—More recent discoveries, methods and theories including an acquaintance with original papers

Applied.—The principle has been laid down that a candidate will be expected to show that he has *bonâ fide* devoted himself to some important industry or manufacture and has acquired a reasonable degree of efficiency under all three of the following heads :—

- (i) *Technical* —He should have either (a) performed systematic analytical control or (b) engaged in systematic research or (c) introduced improved methods of mechanical handling, application of distribution of power, etc.
- (ii) *Economic.*—He should have acquired some knowledge of sources and markets of costing (including) plant, power, labour, control, distribution, depreciation, etc., and of disposal or utilisation of bye-products and waste.
- (iii) *Foreign.*—He should have studied the methods in use in other countries as far as ascertainable by him.

The procedure for testing the fitness of a candidate will be decided as occasion arises.

Zoology.

PREVIOUS.

(For the Examination of 1926).

The Structure, Development, Bionomics and Distribution in space and time of typical representatives and other examples illustrative of general characters of the principal Sub-divisions of each phylum of the animal kingdom.

The standard of examination is approximately indicated by the following text-book.

Parker and Haswell: "A Text-book of Zoology," 3rd edition, two volumes, but the student is expected to consult other books of reference as well.

There will be three papers:

Paper I will deal with the comparative anatomy and Embryology of Non-chordata.

Paper II will deal with the comparative anatomy and Embryology of chordata.

Paper III will deal with the Elements of Paleontology and the Geographical Distribution of Animals.

Candidates must produce at the practical examination their preparations and note-books containing a complete record of laboratory work.

FINAL.

(For the Examination of 1926).

The subjects for Examination shall be:—

A.—The General Principles of Biology, comprising the various theories of evolution and the subjects of Variation, Adaptation, Inheritance and Sex.

B.—A detailed knowledge of some subject or Group to be announced at least one year previous to the date of examination

(The group selected until further notice is Pisces).

Division A of the examination shall consist of two papers.

Paper I shall be devoted to the history and general principles of Biology, including the facts and theories of Evolution, and the subjects of variation, Adaptation, selection, Isolation, Reversion, etc.

Paper II shall comprise the facts and theories of Heredity, Sex, Experimental Morphology and Embryology, Biometrics, etc.

Division B shall also consist of two papers (Papers III and IV) dealing with the specified subject or group selected.

Examiners appointed to set papers III and IV will collaborate to obviate overlapping of questions in the two papers).

Practical Examination.

A selected subject shall be studied as much as possible from the practical standpoint. A selected group shall be studied primarily from the local fauna available in the United Provinces and also from other examples of important types.

Candidates must produce at the practical Examination their preparations and note-books containing a complete record of laboratory work which will be taken into consideration in determining the results of the Examination.

Botany.**PREVIOUS EXAMINATION.**

(For the Examination of 1926).

N.B.—Candidates for the M.Sc. examination will be required to pass in the written as well as in the practical examination separately.

The structure, life-history and affinities of the chief representatives of the principal groups of the Cryptogams and Gymnosperms, living and fossils.

Paper 1 shall comprise the Thallophyta.

„ II „ „ „	Bryophyta and Pteridophyta;
„ III „ „ „	Gymnosperm. (Living and Fossils.)

The requirements of the examination are approximately indicated by the following text-books :—

1. STRASBURGHER : Text-book of Botany.
2. DE BARY : Comparative Morphology of the Fungi.
3. TUBER and SMITH : Diseases of Plants
4. FISCHER : Bacteria.
5. CAMPBELL : Mosses and Ferns.
6. CAMPBELL : University Text-book of Botany.
7. CULTER and CHAMBERLAIN : Morphology of Gymnosperms.
8. BOWER : Origin of Land Flora.
9. SCOTT : Studies in Fossil Botany.

Practical Examination.

The examination will deal with representatives of the chief classes of Cryptogams and Gymnosperms and with the technique connected with their study.

The following books are recommended :—

BOWER : Practical Botany.

STRASBURGHER and HILLHOUSE : Practical Botany.

FINAL EXAMINATION.

(For the Examination of 1926).

N B —Candidates for the M.Sc. examination will be required to pass in the written as well as in the practical examination separately

1. The comparative study of the vegetative and reproductive organs of the Phanerogams considered from the functional standpoint.

2. A detailed knowledge of cell structure traced from the unicellular to the complex organism.

3. The cell in relation to reproduction. Heredity and the phenomena of variation.

4. The relation of the plant to its immediate surroundings. The Physiology of plants including parasitism, saprophytism and symbiosis.

5. The inter-relation between vegetation and climate. The outlines of Plant Ecology and the Geographical Distribution of plants.

6. The affinities of the more important families of plants including the main features of such fossil forms as help to elucidate these affinities.

7. The structure and life-history of representatives of all the chief orders and sub-orders of flowering plants.

Paper I shall comprise the Morphology, and Taxonomy of Angiosperms.

“ II “ “ Plant Physiology, Ecology, and Geographical Distribution.

“ III “ “ Morphology of Gymnosperms, living and fossils.

“ IV “ “ Cytology, Heredity, and Evolution.

The requirements of the examination are approximately indicated by the following text-books :—

1. STRASBURGHER : Text-book of Botany.
2. DE BARY : Comparative Anatomy of Phanerogam, and Ferns.
3. BATESON : Mendelism.
4. LOCK : Heredity, Variation and Evolution
5. JOST : Lectures on Plant Physiology.
6. MARSHALL WARD : Disease in Plants.
7. SCHIMPER : Plant Geography.
8. CLEMENS : Research Methods in Ecology
9. SEWARD : Fossil Plants.
10. DARWIN : Forms of Flowers
11. CULTER AND CHAMBERLAIN : Morphology of Gymnosperms and Angiosperms.

Practical Examination

The referring of plants and parts of plants to their orders and sub-orders. The general histology of phanerogams living and fossil. The student will also be required to satisfy the examiners that he is familiar with the chief forms of apparatus necessary to demonstrate the important facts of plant physiology.

Books recommended :—

BOWER : Practical Botany

STRASBURGHER and HILLHOUSE : Practical Botany.

DARWIN and ACTON : Practical Physiology of Plants.

DETMER and MOORE : Plant Physiology.

Also such special memoirs as the teacher may suggest in the Annals of Botany, Transactions of the Royal Society and elsewhere.

EXAMINATION FOR THE DEGREE OF LICENTIATE OF TEACHING.

The subjects of the examination are the Theory and the Practice of Teaching.

THEORY.

2. There will be four papers as follows:--

- (1) Principles of Teaching.
- (2) History of Education.
- (3) Methods of Teaching.
- (4) School Management and Hygiene.

A paper will also be set in each of the special subjects offered by candidates who desire to have an endorsement on their diploma of special qualifications for teaching one or more branches of the High School Curriculum.

1.—PRINCIPLES OF TEACHING.

1. Child Study and its value to the teacher; Methods of Child Study.

2. Mental Processes. Stimuli and Reactions. Training of the senses. Perception. Association. Imagination. Memory. Conception. Reasoning.

3. Heredity and Environment. Instincts and Instinctive tendencies. Imitation. Sympathy. Suggestion. Self-activity. Play. Attention and Interest. The creation of interests. Habits, their formation and function. The growth of the sentiments. Ideals. Character.

4. The meaning and aim of Education. Function of the School. Principles determining the curriculum. Transfer of training. Intelligence and Mental Tests. Modern tendencies in Education.

Books recommended:—

For Intensive Study

Dunville—"Child Mind."

Kirkpatrick—"Fundamentals of Child Study."

For Further Reading —

Bagley—"The Educative Process."

Nunn—"Education, its Data and First Principles."

McGunn—"The Making of Character."

Sandiford—"Mental and Physical Life of School Children."

Valentine—"Introduction to Experimental Psychology."

Adams—"The New Teaching."

McDougall—"Social Psychology."

Raymont—"The Principles of Education."

II.—HISTORY OF EDUCATION.

(a) A study in outline of the educational theories of Comenius, Locke, Rousseau, Pestalozzi, Herbert, Froebel, and Spencer.

(b) A brief review of education in India from 1815.

Books recommended :—

Boyd—"History of Western Education."

Quick—"Essays on Educational Reformers."

Painter—"History of Education."

Graves—"Great Educators of Three Centuries."

III.—METHODS OF TEACHING.

(a) General :—

The teacher's preparation. Notes of lessons. Types of lessons. Induction and Deduction (Heuristic Method). Problem Method. Oral exposition. Illustrations. Questions and Answers. Use of the blackboard. Correction of pupils' note-books and written work. Diaries and class records.

(b) Methods and apparatus for teaching the various subjects of the curriculum of Secondary schools in India.

(N.B.—The course in Methods will include a practical course of at least 12 lessons in English Phonetics.)

Books recommended :—

Mackenzie—"Instruction in Indian Secondary Schools."

Board of Education—"Suggestions for the consideration of teachers."

Wyntt—"The Teaching of English in India."

Adamson—"The Practice of Instruction."

Green and Birchenough—"Primer of Teaching Practice."

Welton—"Principles and Methods of Teaching."

Adams—"Modern Developments in Educational Practice."

IV.—SCHOOL MANAGEMENT AND HYGIENE.

- (a) The school building, including hostels and out-houses. Study of standard designs. Furniture and fittings. Apparatus.

The headmaster and his duties. The staff. Distribution of work. The class teacher and the specialist. Staff meetings. Classification of pupils. The curriculum. Time-tables. Correlation of subjects. Examinations. Marks. Promotions. Homework. School Libraries.

Class management. Discipline within and without the class-room. Moral training. Rewards and punishments. Corporate life. Pupil Self-government. Hostel life and superintendence. Parental co-operation.

Office and school records.

- (b) Study in outline of the human body. Factors influencing health and growth. Personal cleanliness. School postures. Physical Exercises. Fatigue. Organised games.

Defects of eye-sight and hearing. Dental disease. Common minor ailments, their identification and treatment.

Infectious diseases. Disinfection. Simple accidents. First Aid.

The hygiene of the school. Arrangement of classrooms.

Lighting and ventilation. Over-crowding. Water-supply.

Sanitation of the school and hostel. The objects and methods of medical inspection.

Books recommended :—

Wren—" Indian School Organisation."

Bennett—" School Efficiency."

Barnett—" Teaching and Organisation."

Lyster—" Text-book of Hygiene for Teachers."

Drummond—" School Hygiene."

Ritchie-Pursell—" Sanitation and Hygiene for the Tropics."

The Educational Code of the Province.

5. For candidates offering a special subject :—

Special methods and special apparatus for teaching the subject.

The special subjects recognised are :—

English.

History.

Geography.

Mathematics.

Nature Study.

Physics and Chemistry.

Manual Training

Practice in Teaching.

Practice in Teaching.

(*Vide* ordinance 2 on page 30)

BACHELOR OF LAWS EXAMINATION.

The following Text-books and Acts are recommended :—

(a) FOR THE PREVIOUS EXAMINATION.

- | | |
|---------------------------------------|--|
| (i) Roman Law | .. Hadley's Roman Law. |
| (ii) The Law of Contracts. | (i) Carter on Contracts.
(ii) Pollock and Mulla's Indian Contract Act (IX of 1872), (Students' Edition).
(iii) University Selection of Leading Cases. |
| (iii) The Law of Easements and Torts. | (i) Underhill on Torts.
(ii) Mitra's Lectures on Easements.
(iii) The Indian Easements Act (V of 1882),
(iv) University Selection of Leading Cases. |
| (iv) The Law of Evidence. | (i) Ratan Lal's Evidence Act.
(ii) Cockle's Cases.
(iii) University Selection of Leading Cases. |
| (v) Criminal Law and Procedure. | (i) Ratan Lal's Indian Penal Code. Students' Edition.*
(ii) Code of Criminal Procedure (New).
(iii) University Selection of Leading Cases. |

* Candidates will not be required to have a knowledge of the amount of punishment which can be inflicted for any offence

- (vi) Constitutional Law (i) Dicey on the Constitution.
 (ii) Bose's Working Constitution of India.
 (iii) Government of India Act, 1915, with all amendments.

(b) FOR THE FINAL EXAMINATION.

- (i) Civil Procedure including Principles of Pleading. The Code of Civil Procedure.

Limitation .. The Indian Limitation Act

- (ii) The Law relating to Land Tenures, Rent and Revenue. *As to Central Provinces—*
 Tenancies Imperial Act, XI of 1898 amended by Act XXI of 1899 and C. P. Act III of 1917.

Land Revenue C. P. Act II of 1917. (For rules made under these Acts, the Revenue Manual, C. P., Vol. I, may be consulted.)

As to United Provinces—

Act No. II of 1901 (United Provinces).

Act No. III of 1901 (United Provinces).

Act No. XXII of 1886 (Oudh Rent Act) as amended by Acts IV of 1921 and I of 1923.

Baden Powell's Short Account
of the Land Revenue and
its Administration in British
India, with a sketch of the
Land Tenures.

- (iii) Hindu Law, ... (i) Mulla's Hindu Law.
(ii) Siromani's Hindu Law, 3rd
Ed., Vol. I., Part II.
(iii) University Selection of
Leading Cases.
- (iv) Mahomedan Law .. (i) Wilson : Digest of Anglo-
Mahomedan Law. From
the beginning of Part II
to the end of the book ;
(ii) Abdur Rahim : Principles
of Mahomedan Juris-
prudence (T. L. L.,
1907). Chapters 1, 2, 3,
6, 8, 11 and 12.
(iii) University selection of
leading cases.
- The Law relating (i) The Transfer of Property
to Transfer of Pro- Act (IV of 1882).
perty, etc.
- (ii) Shephard and Brown :
Commentaries on the
Indian Transfer of Pro-
perty Act.
- (iii) Chapters relating to Mort-
gages in Snell's Principles
of Equity, i.e., Chapters
19, 20 and 21 of the 18th
edition.

- (iv) University selection of leading cases.
- (vi) Equity with special reference to Trusts and Specific Relief.
 - (i) The Indian Trusts Act (No. 11 of 1882).
 - (ii) The Specific Relief Act (No. 1 of 1877).
 - (iii) The Chapters on the History and Maxims of Equity, on Trusts, on Mistake, on Fraud, Actual and Constructive, and on Specific Performance in Snell's Principles of Equity, i.e., Chapters 1 to 9 inclusive, and Chapters 28, 29, 30 and 35 of the 18th edition.
 - (iv) University selection of leading cases.
- (vii) Jurisprudence
 - Gray: The Nature and Sources of Law (Columbia University Press).
 - Salmond's Jurisprudence.

NOTE.—Every Act mentioned in the above list should be understood to mean the Act with all subsequent amendments thereof.

The University Selection of leading cases is printed on pp. 180—83.

University Selection of Leading Cases.**I.—CONTRACTS.**

Henthorn *v.* Fraser (1892), 2 Ch., 27.

Carlill *v.* Smoke Ball Co. (1893), 1 Q. B., 256.

Mohori Bibee *v.* Dharmodas Ghose, 30 I. A., 114;
I.L.R., 30 Calcutta, 539.

Lalnan *v.* Gauri Dutt, 11 A.L.J.R., 489.

Derry *v.* Peek, 14 A.C., 337. (Lord Herschell's Judgment).

Foster *v.* Mackinnon, L.R., 4 C. P., 704.

Jamal *v.* Moolá Dawood & Sons, 43 I.A., 6; I.L.R., 43,
Calcutta, 493.

Keighley Maxted & Co. *v.* Durrant (1901), A.C., 240.

Mallwo, March & Co. *v.* Court of Wards, 10 Bengal
L.R., 312.

Kundan Lal *v.* Jagannath, I.L.R., 37 Allahabad, 649.

II.—TORTS AND EASEMENTS.

Scott *v.* Shephard. 2 W. Blackstone, 892.

Lloyd *v.* Grace Smith & Co. (1912), A.C., 716 (Lord
Macnaghten's Judgment).

E. Hulton & Co. *v.* Jones (1910), A.C., 20.

Abrath *v.* N. E. Ry. Co., 11 Q.B.D., 440 (Judgment of
Bowen, L.J.).

Butterfield *v.* Forrester, 11 East, 60.

Davies *v.* Mann, 10 M. and W. 546.

Lumley *v.* Gye, 2 Ell. and Bl., 216.

Rylands *v.* Fletcher, L.R., 1 Exch., 265.

Nichols *v.* Marsland, L.R., 2 Exch. Division, 1.

III.—EVIDENCE.

Legal Remembrancer v. Lalit Mohan Singh, I.L.R., 49 Calcutta, 167.

Balarani v. Mahabir Singh, I.L.R., 34 Allahabad, 341.

Balkrishna Das v. Legge, I.L.R., 22 Allahabad, 149.

Mohammad Sharif v. Bande Ali, I.L.R., 34 Allahabad, 36.

IV.—CRIMINAL LAW.

R. v. Govinda, I.L.R., 1 Bombay, 342.

Ganouri Lal v. Queen-Empress, I.L.R., 16 Calcutta, 206.

In the matter of the Amrita Bazar Patrika, I.L.R., 47 Calcutta, 190.

Amrita Lal Hazara, I.L.R., 42 Calcutta, 957.

Q-E. v. Moss, A. W. N., 1894, p. 23.

Mohd. Husain v. K.-E., 15 Oudh Cases, 321.

Tapti Prasad v. K.-E., 15 A.L.J.R., 590.

V.—HINDU LAW.

Rangamma v. Atchama, 4 M.J.A., 1.

Bhoobun Moyee v. Ramkishore; 10 M.I.A., 279.

Pudma Coomari v. Court of Wards, 8 I.A., 229; I.L.R., 8 Calcutta, 302.

Appoovier v. Rama Subba, 11 M.I.A., 75.

Amar Nath v. The Firm of Hukum Chand, I.L.R., 2 Lahore, 40 (P.C.).

Kawal Nain v. Budh Singh, I.L.R., 39 Allahabad, 496 (P.C.).

Sahu Ram Chandra *v.* Bhup Singh, 44 I.A., 126 ; I.L.R., 39 Allahabad, 437.

Hanooman Prasad *v.* Munraj Kunwari, 6 M.I.A., 393.

Buddha *v.* Laltu, 42 I.A. 208 ; I.L.R., 37 Allahabad, 604.

Ram Chandra *v.* Vinayak, 41 I.A., 290 ; I.L.R., 42 Calcutta, 384.

Isri Dutt *v.* Hansbutti, 10 I.A., 150 ; I.L.R., 10 Calcutta, 324.

Ranga Sami *v.* Nachiappa, 46 I.A., 72 ; I.L.R., 42 Madras, 523.

Sheo Shankar *v.* Debi Sahai, 30 I.A., 202 ; I.L.R., 25 Allahabad, 468.

VI.—MOHAMEDAN LAW.

Govind Dayal *v.* Inayat Ullah, I.L.R., 7 Allahabad, 775.

Ranee Khajooroonissa *v.* Musammat Raushan Jehan, I.L.R., 2 Calcutta, 184 ; 3 I.A., 291.

Jafri Begum *v.* Amir Muhammad Khan, I.L.R., 7 Allahabad, 822.

Hasart Bibee *v.* Golam Jafar (1898), 3 C. W. N., 57.

Habibur Rahman *v.* Altaf Ali, I.L.R., 48 Calcutta, 856 (P. C.).

Muhammad Junaid *v.* Aulia Bibi, I.L.R., 42 Allahabad, 497.

Fakhruddin *v.* Kifayatullah (1910), 7 A. L.J.B., 1095.

VII.—TRANSFER OF PROPERTY.

Gokal Dass, etc., *v.* Puranmal, I.L.R., 10 Calcutta, 1035 (P.C.).

Smith *v.* Toms (1918), 1 I.R., 338.

Kreglinger *v.* New Patagonia Meat Company (1914), A. C. 25 (Lord Haldane's Judgment).

Ram Coomar Kundoo *v.* Mc-Queen, 11 Bengal L. R., 46 (P.C.).

Webb *v.* Macpherson, I.L.R., 31 Calcutta, 57 (P.C.)

Krishna Bai *v.* Hari Govind, I.L.R., 31 Bombay, 15.

VIII.—EQUITY.

Wilmott *v.* Barber, 15 Ch. Div., 96.

Gopi Nath *v.* Kunj Behari Lal, I.L.R., 34 Allahabad, 306.

Thorndike *v.* Hunt, 3 De. G. and J., 563

Tee *v.* Ferris, 2 K. and J., 357 (English Reports, Vol. 69, p. 819).

Mussoorie Bank *v.* Raynor, I.L.R., 4 Allahabad, 500 ; 7 A. C., 321.

Cooper *v.* Phibbs, L.R., 2. H. L., 149.

MASTER OF LAWS EXAMINATION.

A candidate for the Degree of Master of Laws shall be required to take six subjects, namely :—

1. Jurisprudence and Principles of Legislation
2. Roman Law
3. Principles of Equity, including Trusts and Specific Relief
4. Either Hindu Law or Mahomedan Law (as administered by the courts in British India), with a knowledge of the original texts or translations thereof.
5. Any two of the following subjects :—
 - (a) Hindu Law for those who have taken Mahomedan Law under 4, or Mahomedan Law for those who have taken Hindu Law under 4.
 - (b) The Law of Contracts in all its branches.
 - (c) The Law relating to Transfer of immovable property and to Easements.
 - (d) The Law of Wills and of Intestate Succession.
 - (e) International Private Law.
 - (f) Constitutional Law, British and Indian.

B.COM. EXAMINATION.

The subjects of instruction and examination shall be as follows:—

1st Year.

1. English.
2. Elements of Economics.
3. Elements of Currency and Banking
4. Economic and Commercial Geography (General).
5. Accounting.
6. Business Methods and Correspondence.

A departmental examination will be held at the end of the 1st year.

2nd Year.

1. English. 1 paper and an Essay (1½ hours).
2. Principles of Economics. 1 paper.
3. Currency, Banking and Finance with special reference to India. 1 paper.
4. Economic and Commercial Geography^{with} with special reference to the New World. 1 paper.
5. Commercial Law, Part 1. 1 paper (3 hours).
6. Accounting and Business Organisation (Advanced). 2 papers.
7. Any one of the following:—
 - (a) History :
 - (i) Economic His. 1 paper 3 hours (Examination of Motion to be taken at the end of the 2nd year).

(ii) History of Europe from 1815 to the present day. 1 paper 3 hours (Examination to be taken at the end of the 3rd year).

(b) Administration (with special reference to Municipal administration). 1 paper.

(c) Science applicable to manufacture :

(i) Chemistry .. 1 paper and practical examination.

or,
(ii) Physics .. 1 paper and practical examination,

• (d) A Modern foreign language.

3rd Year.

1. English. 1 paper (B. Sc. Standard) and *Viva Voce*

2. Industrial and Commercial Organisation. 1 paper

3. Statistical Method, 1 paper.

*4. Trade and Transport, 1 paper.

5. Economic and Commercial Geography of Eurasia and East Africa. 1 paper.

6. Commercial Law, Part II. 1 paper.

*7. Modern Economic Development of the Empire (with special reference to India) and the most important Foreign Countries, 1 paper.

8. The optional subject selected in the 2nd year.

In the case of History the subject of study will be :—

History of Europe from 1815 to the Present Day.

1 paper.

N.B.—1. No student will be allowed to take an optional subject in which instruction is not provided.

2. For a Pass besides obtaining 33% in each paper, it is necessary that a candidate obtains 40% in the aggregate.

* For syllabus apply to the Commerce Department, The University, Allahabad.

SYLLABUS.**ENGLISH.***1st and 2nd Years.*

I. An Essay on a subject of general interest.

II. A paper including :—

Precis.

Correspondence.

Translation from direct to indirect speech and
vice versa.

Expansion of summarised ideas into full and clear
statements and *vice versa*.

Correction of grammatical errors and reconstruction
of incorrect or badly constructed sentences.

Questions on grammar, syntax, punctuation,
vocabulary, use of technical words and points
of style as discussed in the "King's English."

3rd Year.

I. Paper unseen.

On the lines laid down for English prescribed for the
present B.Sc. degree with *viva voce* Examination.

ECONOMICS.*1st Year.*

Production.—Analysis of the expenses of production :
factors which limit supply.

Exchange.—Prices : laws of supply and demand.

Consumption.—The basis of demands: wants, budgets,
and the division of Income.

Distribution.—Rent, Interest, Wages, and their difference.

The supply of capital and credit; Co-operative credit.

The supply of labour and population.

Organisation and management.—The principle of substitution.

Large and small-scale production.

Division of labour. Machinery.

[*(N B.*—An outline for teaching this course by the project method has been filed with the Department of Commerce.)

The project method begins with the first-hand study of local small-scale industries and living conditions, chosen to illustrate different problems of production. (For example, wheat, milk, pottery, cotton or woollen cloths.) From the actual conditions of these industries the fundamental principles of economics are deduced. The relative efficiency of more specialised labour and machinery is studied, if possible, with actual machines leading up to a study of large-scale manufacture and marketing.]

2nd Year.

Subject-matter and purpose of Economics.

Method of reasoning and presentation.

Definitions and fundamental concepts.

The factors of production—Labour, Capital, Land, Organisation—classified according to quality and quantity. Efficiency of labour in relation to other factors.

The aims of production, consumption and utility. Demand for consumer's goods. Demand for producer's goods.

Exchange Market prices; their fluctuations decreased through transportation, speculation and organisation of the market. Tendency to normal prices. Monopoly prices. Price in international trade.

Distribution of the price obtained to the agents of production through substitution and equalisation of marginal returns. Rents, interest, wages, profits.

Theory of economic progress. Possible reconciliation of better production with better distribution.

MONEY AND BANKING.

1st Year.

Money—

The origin of money. Barter. Grain payments. Use of the precious metals, Coins and Currency systems: the legal basis of money, mint price of gold or silver, parity of exchange, token money, legal tender, Gresham's Law. Withdrawal of light coin.

Double standard, silver standard: gold standard. State of coinage in India prior to 1835. Adoption of standard Rupee throughout British India and demonetisation of Gold.

Fall of the price of silver. The failure of proposals for bimetallism. The Sherman Act.

The Indian Currency Committee of 1893 and the closing of the mints. The Committee of 1898. Gradual adoption of the Gold Exchange standard system. Gold standard reserve.

Paper Currency convertible and inconvertible. Bank notes. Issue Department of the Bank of England. The inconvertible paper currencies of Europe since the War. The advantages and dangers of paper currencies.

The Indian paper currency. Composition of the Paper Currency Reserve—before, during and after the War. Its relation to the Treasury Balances.

Banking—

The work of a bank. Balance Sheet of a bank. The cheque and clearing system. Other means of inland remittance: bank drafts, bills of exchange, hundis. The English Branch banking system and London clearing system. Banking amalgamations.

Growth of banking in India. Mahajans, chetties, shroffs. Early joint-stock banking. The Presidency Banks.

Present banking system of India. The Imperial Bank. Joint-stock Banks, European and Indian. Industrial and Co-operative Banks. Exchange Banks

Government control of banks. Information to be made public. Other means of protecting customers. Post Office savings banks.

Prices—

The price level. Changes ascertained by index numbers. Interpretation of Index numbers

Causes of changes of price level. Quantity of money. The balance of trade. Over-issue of paper money. Creation of bank credit, and the process of creating and cancelling bank deposits. Operation of this process in England. Extent of its operation in India.

Changes of the price level in England and in India from 1860. Probable causes. The special effects of the Great War.

The economic and social effects of rising prices and of falling prices. Their effects on the trading and agricultural classes in India.

ACCOUNTING.

1st Year.

The principles of Double Entry Book-keeping and their application. Books of original entry. The Ledger, Trial Balance, Trading and Profit and Loss Accounts, with apportionments. Balance Sheet.

In the treatment of the above, the following matters will be included :—Cheques, Bills of Exchange, and Promissory Notes; Good will; Classification of Assets; Bad Debts; Depreciation and Reserve (elementary); Consignments; Joint Venture and Contract Accounts; Elementary Partnership and Company Accounts.

BUSINESS METHODS AND CORRESPONDENCE.

The general routine of a Business House :—Inward and Outward Correspondence, including Drafting and Filing; Methods of Rapid Communication, Duplicating Processes.

The significance of Trade, Commerce and Industry. Manufacturing and Distributing Houses. The buying and selling of goods. Importation and exportation, with an elementary knowledge of fire and marine insurance as applicable thereto.

The meaning of the principal commercial terms occurring in connection with the above; and the preparation of the chief documents involved, including the arithmetical calculations.

COMMERCIAL GEOGRAPHY.

1st Year.

Climate:—Annual distribution of temperature and rainfall with causes · how these factors divide the world into climatic regions.

Natural Regions of the world in relation to climatic regions : their natural vegetation, animal life, occupations and products.

Soil. (Outline only):—Classes and properties, preservation of soil irrigation, dry-farming.

Commercial Products:—Each according to its properties and utility, requirements (of climate, soil, etc.), distribution and commercial importance (a) generally. (b) in India.

1. Vegetable products, including forest products.
2. Animal commodities.
3. Fisheries.
4. Mineral wealth.

Sources of power.

Studies of distribution maps.

2nd Year.

General Economic and Commercial Geography of the New World as best illustrating general truths and providing illustrations of the growth of industrial and commercial centres.

South Africa and Australasia to be treated as affording comparisons with the New World.

Means of Transport.

Trade and Trade Restrictions.

The growth of Towns.

The graphical and diagrammatic representation of statistics, the construction of statistical maps; sketch-maps.

3rd Year.

The Economic and Commercial Geography of Eurasia and East Africa on the same lines as in the second year but the monsoon lands (notably India, Japan and China) and the chief commercial countries of Europe (Great Britain and Germany in particular) to be studied in greater detail.

CURRENCY, BANKING AND FINANCE

2nd Year.

Currency—

Monetary Standards--Gold Standard and convertibility; gold exchange standard and external convertibility, bimetallism and its relation to price level and to international monetary conferences; fiat money and inconvertibility; place of credit in a currency system

Indian Currency—History of Indian currency from 1800. Principal recommendations of the Committees of 1893, 1899, 1919 and of the Royal Commission of 1913-14. Legal Basis of the Indian Currency System of the Present day. Comparison with currency system of other countries, especially the United Kingdom,

France, the United States and the Phillipines. Volume and composition of media of exchange in India: coins, notes, and bank deposits. Composition and management of Paper Currency Reserve and Gold Standard Reserve.

Banking—

Theory of Banking—Nature of banking capital; function of specie and legal tender reserves: method and extent of credit issues. relation between loans and deposits.

Function of Banking—Financing internal trade, foreign trade, industrial concerns, agriculture, speculative activities; relation to the volume and character of the trade of the country and to industrial development and industrial organisation; function of a central bank as a banker's bank, as financial agent of government, as stabilising influence in depressions, and as influencing prices, money rates and banking development.

Classes and systems of Banks.—Private banks (Indian and foreign); joint-stock (foreign and Indian); Exchange banks; (English, American, Dutch, etc.); shroffs and bazar bankers and money-lenders; the Imperial Bank, its organisation and functions, terms of its charter. Branch banking. Comparison of banking systems of India, England and America.

Bank Organisation and Management—The various officers and duties of each; method of procedure; control of policies. Clearing Houses and other forms of Inter-bank relations.

Finance—

To be studied from the standpoint of actual practice, and how a person desiring credit in one of its forms obtains it.

Commercial credit and the financing of internal trade; industrial credit and the financing of industrial undertakings; agricultural credit and the financing of agriculture; foreign exchanges and the financing of foreign trade.

Sources and volume of credit of various kinds in the different cities and provinces of India. Seasonal and geographical flow of funds in India. Bills of exchange. Flow of funds between London and India.

Rates of interest and discount, bank rate, market rate, shroff and trade rates; on debentures and bonds; on agricultural loans.

Theory of Prices—The price level in India; variation during the last half century; relation to external price level; secular trend; seasonal variations and cyclical fluctuations. Relations of price level to volume of circulation of currency and credit. Expansion and contraction of the currency in accordance with the needs of the country; inflation and deflation. Critical examination of the quantity theory of money, including statistical tests.

Elementary Public Finance.

Revenue, Sources of State revenue. Various kinds of taxes. Taxation and equity. Incidence of taxation and relation to distribution of wealth. Effect on production. Cost of raising revenues and administrative difficulties.

Expenditure—"Productive" and "unproductive." Industrial undertakings. Relation to scope of State activities. Relation to distribution of wealth.

Debt—Bond issues, funded and unfunded, short and long-term. Treasury bills. Expansion of paper currency. Sinking funds.

Financial Administration in India. - Imperial, Provincial and local finance. Budgets (primarily Imperial, United Provinces and Allahabad). Division of revenues and special problems of the Imperial Government, of the provinces and of municipalities and districts. Separation of accounts of industrial undertakings.

INDUSTRIAL AND COMMERCIAL LAW.

COMMERCIAL LAW.

2nd Year.

General Principles of the Law of Contract.

Sale of Goods.

Negotiable Instruments.

Banking and Guarantee.

Agency.

Partnership.

3rd Year.

Bankruptcy.

Carriage by land and sea.

Marine Insurance.

Insurance, other than Marine.

Patents and Trade Marks.

Companies, including Statutory bodies.

INDUSTRIAL LAW.

2nd Year.

General Principles of the Law of Employers and Workmen.

3rd Year.

Factory Law.

Workmen's compensation and Employers' Liability.

Trade Unions.

ACCOUNTING AND BUSINESS ORGANISATION.

2nd Year.

Accounting

Partnership and Company Accounts (development of the 1st Year's Course).

Depreciation, Reserves, and Sinking Funds (development of the 1st Year's Course).

Capital and Revenue.

The Double Account System.

Sectional and Self-balancing Ledgers.

Departmental and Branch Accounts.

Tabular Book-keeping.

Bankruptcy and Liquidation Accounts

Business Organisation—

General and Limited Partnership.—Characteristics of a Partnership. The Deed of Partnership; kinds of partners; Dissolution; Bankruptcy.

Joint Stock Companies.—Formation, Statutory Forms and Books ; Secretarial Work ; Investments.

Complete Business Transactions.—Exemplifying the principles and practice of trade.

MODERN EUROPEAN HISTORY, 1815—1914.

The Congress, 1815—22. The Holy Alliance. Metternich and Castlereagh. Reaction and revolution in France. The royalist and religious reaction. Effect of the revolution in Italy. The seven Societies: the *Carbonaria*. Revolution of July. Risings in Italy. The Papacy and Catholic Church. Greece and the Balkan Peninsula. The War of Greek Independence. Europe and the Ports. *Spain*—Absolute reaction in Spain. The Carlist War. Revolution of 1840.

The Spanish dominions in America. Organisation and administration of the Spanish Indies. Effect of the American and French Revolutions. Extent and characteristics of the Spanish rule. The revolt of the Spanish Colonies in America. Mithrande and Bolivar. Brazil and Portugal.

The Germanic Federation. Failure of the National movement in Germany. Prussian and Austrian policy. Minor States. The Germanic Confederation. Administrative reforms in Prussia.

Russia.—Alexander I. Russian revenue and currency. The peasants, the nobles, and the clergy. Foreign policy of Nicholas. The partitions of Poland. Poland at the Congress of Vienna. The Polish Revolution, its results.

The Orleans Monarchy. The Revolution of July. The Duke of Orleans and the French parties. The characteristics of the reign.

The Low Countries.—The United Netherlands. Difficulties attending the Union of Belgium with Holland. The Belgian opposition; revolt of Belgium. The Treaty of May 19th, 1839.

Great Britain, 1815—34.—Industrial depression, Luddite and other riots. The radical movement, Legal and social reforms. Colonial policy, currency. Huskisson's policy. The sinking fund: Customs duties. Changes in the Corn Law to 1826. The policy of Canning, of Castlereagh, of Huskisson, and of Lord Grey. The attitude of Whig and Tory parties. The English Utilitarians. The First Reform Act. Its results. The work of the first Reformed Parliament. Reform of the Poor Law. Melbourne's Ministry. The economic policy of Sir Robert Peel. Municipal reform in England and Scotland. Accession of Queen Victoria. Owen, Trade Unionism and the Chartist.

Economic Change.—Cumulative effects of various economic changes. Means of communication. Mechanical inventions. Iron Industry. Cotton spinning and weaving. Roads, canals, harbours, railways. Agriculture. Enclosure Acts. International Finance. Joint-stock enterprise, banking. Investment of capital. Mechanical industry of the Continent. Oceanic trade. The American Trade, the Wheat Trade: the Eastern trade: Emigration.

Great Britain and Free Trade, 1841—68.—Financial reforms of Sir Robert Peel. The Corn Laws. The Tractarian crisis. Irish famine. Social legislation. Financial policy of Gladstone. The Crimean War. Its results. Palmerston's policy. Movement for reform. Disraeli's Reform Bill,

France, 1840—71.—The Napoleonic cult. Guizot, Thiers and Louis Philippe. The prohibited banquet, Formation of a provisional Government. Its resignation. Louis Napoleon and the French parties. Restoration of the hereditary empire.

Les Idées Napoléoniennes.—The constitution, Government attitude towards finance, army and industry. The Republican party. The foreign policy of Napoleon, his attitude towards England, Italy and Prussia. Religious policy of Napoleon. The clerical opposition. The Danish question, the Mexican disaster, labour opposition. Prussian policy towards France. Franco-German War. Battle of Sedan. Fall of the Empire. Gambetta. The struggle in the provinces. The struggle in Paris. Results of the conflict.

Italy, 1848—61.—The revolution in Italy. Mazzini and Garibaldi. The Policy of Austria. The results of the Revolution. The policy of Victor Emmanuel. Cavour's policy. Conference of Plombiers. Napoleon III and Austria. Treaty of Zurich. Garibaldi in Sicily. The achievement of Cavour.

The Revolution and the Reaction in Germany and Austria.—Revolutionary disturbances in Germany. Insurrection in Vienna. The war in Hungary. The Prussian "National Assembly." The Frankfort constitu-

tion. Reaction in the Austrian Empire. Schwarzenberg struggle between King and Parliament in Prussia. Bismarck's policy. Bismarck and Austria. The Schleswig-Holstein dispute. War with Austria. Battle of Königgratz. The North German Confederation. The Southern States. The Hohenzollern candidature. War with France. Effects of the War. Union of North and South Germany. The German Empire.

Russia.—Reforms of Alexander I. Emancipation of the Serf. Its effects on (1) Peasants, (2) Nobles, and (3) Industry. Introduction of local self-government. Results of the era of Reform. Growth of Nihilism. Russian conquests in the East.

The British Empire.—Lord Durham and Canada. The Federation of Canada. The development of South Africa and Australasia.

Great Britain.—Gladstone's ministries. His financial policy. Ireland and the Home Rule movement.

The Third French Republic.—Alliance of France and Russia. The colonial, economic and foreign policy of Modern France.

The German Empire and Austria-Hungary.—The new German Empire. William I and Bismarck. Bismarck and the Russo-Turkish War. The Kulturkampf consolidation. Bismarck and social democracy. Social legislation in Germany. Insurance, tariff, uniformity, Colonies. The growth of the German Navy. Germany, Great Britain, and the Dual Alliance. Political reform in Hungary and Austria. The compromise of 1907; annexation of Posnia and Herzegovina.

The development of Modern Russia.—The Japanese War. Agrarian riots. Moscow rising. The constitution and function of the Duma.

The colonisation of Africa.—In the 19th-20th centuries. *Social progress* in the 19th century. Municipal reform in England and on the Continent. Relation of central to local authorities. Co-operative movement in Europe. Factory Legislation, development of trade unionism, and the rise of socialism. The propaganda of Karl Marx; growth of labour codes. Opening of intercourse by land between East and West. Growth of industry and commerce. The effects of the progress of science and industry. The Darwinian hypothesis.

ADMINISTRATION WITH SPECIAL REFERENCE TO MUNICIPAL ADMINISTRATION.

2nd year.

Government of India—its constitution and structure.

Outlines of British Constitution.

Local Government, History, Nature and Sphere.

Constitutional power and duties of local authorities in India. Their relation to the Central authority.

3rd year.

A comparative study of local Government, in outline in England. Problems of local administration such as Finance, Public Health and Sanitation. Regulation of Traffic, Education, Licensing Trades, Mendicancy, Co-operative activities, Town Improvements, Provision of Public amenities; (Gardens, Libraries, Museums, Recreation Fields, Exhibition etc.). Possible lines of future development of local Government in India.

STATISTICAL METHOD.

PART I.

Scope and Utility of Statistics, Collection of Data, Tabulation, Averages, Dispersion, Skewness, Graphic Method, Accuracy, Index Numbers, Interpolation, Association, Contingency, Correlation, Samples, Common errors in statistics.

PART II.

STATISTICS OF BRITISH INDIA.

Population, Vital Statistics. Production, Wages, Prices, Trade, Labour, Income, etc.

INDUSTRIAL AND COMMERCIAL ORGANISATION. 3rd year.

Introductory Economic Organisation.—Economic Organisation as the mechanisms and devices of society for the production and distribution among users of scarce goods and services. Types of economic organisation, including mediæval and non-industrial type. The industrial revolution of the 18th century.

Industrial Organisation.—The modern machine system; basic principles and conditions of introduction; effects of its introduction upon labour, production and the organisation of industry. The factory systems and cottage industries. Modern industrial management and the machine Agriculture.

Financial Organisation.—Forms of credit and capital bonds, stocks and shares, personal capital and credit banking, industrial, agricultural and commercial credit. Joint stock enterprises. promotion and finance. The system of managing agents, Co operative credit societies.

Commercial Organisation.—Markets; local, provincial, national and international; produce, raw material and manufactured goods, wholesale and retail. Produce and stock exchanges. Speculation; function and evils; hedging and similar contracts. Systems of marketing direct to consumer, middlemen, co-operative middlemen, functional middlemen in communication, insurance and finance and transportation.

General Problems of Control.—Concentration of production, of wealth and income, of private control over industrial activities. The Wage System and the worker; conditions of employment, unemployment, accident and fatigue. Employer and employee's relationships. Factory Legislation Guidance of economic activity; monopoly and competition; governmental interference, initiative and control; nationalisation of industries; social control through tradition; social inheritance; the family, public opinion, and voluntary associations.

ECONOMIC HISTORY OF MODERN EUROPE.

Introductory:—Economic Foundations (a) The Manor—the openfield system—Holding and Tenants—Decline of Serfdom—Beginnings of enclosure in England—Agrarian conditions in France and Germany in the 18th Century.

(b) General aspects of mediæval industry—Gilds, their objects, organisation and decline—Use of the domestic system, its advantages and disadvantages.

(c) Aspects of mediæval trade—Trade expansion in early modern times—Trade restrictions in the 18th century—Mercantilism. The Physiocrats and Adam Smith—Beginnings of Free Trade in England.

2. The French Revolution and Revolutionary and Napoleonic Reorganisation in France and Germany.

3. Agriculture, Industry and Trade since 1815--in England, France, and Germany. The Agrarian and Industrial Revolutions of England, Extension of Facilities of Transport. Agriculture and Agrarian problems in France and Germany. Development of Industry in France and Germany. The Commerce and Commercial policy of France, Germany and England in the 19th century.

4. Economic development of Russia. The abolition of Serfdom. Beginnings of the Industrial Revolution. Railway development. Foreign trade, tariff policy. The Revolution of 1917—18.

5. Labour organisation and Labour Legislation in Great Britain and on the Continent during the 19th Century. Spread of Socialism—Social Insurance.

6. The Economic causes of the Great War—Results—Problem of Reconstruction.

(The last two sections to be studied in an Elementary way).

The following books are specially recommended :

English.

1st and 2nd Years.

Fowler	..	King's English.
Harrold	..	Practical Precise writing and Indexing.

*Economics.**1st Year.*

Gough	..	Wealth and Work.
Cannan	..	Elementary Political Economy.
Moreland	..	Introduction to Economics.

2nd Year.

Marshall	..	Economics of Industry.
Le-Mesurier	..	Common Sense Economics.
Abbott	..	Commercial Theory and Practice.

*Money and Banking.**1st Year.*

Jevons	..	Money, Banking and Exchange in India.
Withers	..	Meaning of Money.
Clare	..	Money Market Primer.

For reference--

Todd's Mechanism of Exchange

2nd Year.

Robertson	..	Money.
Spalding	..	Eastern Exchange.
Duguid	..	How Read Money Article.

Currency Reports of 1914 and 1920.

Also	..	Questions on Banking Practices (Institute of Bankers).
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*Accountancy.**1st Year.*

Fieldhouse .. Students' complete commercial
Book-keeping.

Batliboi . Advanced Accounts.

Spicer and Pegler Elementary Book-keeping.

2nd Year

Dicksee . Advanced Accounting.

Dicksee .. Book-keeping for Company
Secretaries.

As well as all the Books mentioned for the 1st year.

*Organisation and Business Methods.**1st Year.*

Fieldhouse .. The Students' Business Methods
and Commercial Correspondence.

Grebby Modern Business Training and
Methods and Machinery of
Business.

Clemson .. Method and Machinery of Business.

Grebby . Modern Commercial Correspondence.

Thorby and Lewis Colloquial and Business English.

2nd Year.

Dicksee .. Business Organisation.

Davar .. Business Organisation.

Fieldhouse's and Grebby's books as in the 1st year.

Commercial Law.

Topham .. Company Law.

Davar .. Mercantile Law.

Stevens .. Elements of Mercantile Law.

Administration.

Horne .. Political System of British India.

Jenke .. The Government of the British Empire.

Keith .. Speeches and Documents on Indian Policy, Vol. II.

History.

Alison Philips .. Modern Europe.

Seignobos .. Political History of contemporary Europe.

Oliveday ... History of Commerce.

Industrial and Commercial Organisation.

Marshall ... Readings in Industrial Society.

Taylor ... Scientific Management.

Shadwell .. Industrial Efficiency.

Geography.

1st Year.

Howarth	..	Commercial Geography of the World.
Cunningham	..	Products of the Empire.
Lyde	..	Man and his markets.
Bartholomew	..	School Economic Atlas.

2nd Year.

Chisholm	..	Handbook of Commercial Geo- graphy (Latest Edition).
		<i>or</i>
Russell Smith	..	Industrial and Commercial Geography.
Rudmore Brown	..	Principles of Economic Geog- raphy.

Statistics.

Bowley	..	Elements of Statistics.
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PART II.

ASSOCIATED COLLEGES

(EXTERNAL SIDE).

TEXT-BOOKS AND SYLLABUS PRE- SCRIBED FOR THE EXAMINATIONS OF 1926.

B.A. EXAMINATION.

English.

A. 1st or General Section :—

There will be two papers :—

1st Paper :—Unseen passages from modern books, magazines or newspapers designed to test the candidate's knowledge and intelligent appreciation of present day topics with questions on grammar, idiom and precise writing.

2nd Paper :—An Essay designed to test the powers of the student to write clearly and correctly on a subject with which he may be expected to be acquainted.

B. 2nd or Special Section :—

There will be two papers :—

1st Paper :—Questions on set books of Prose Literature.

2nd Paper :—Questions on set books of Poetry.

The following books are prescribed :—

Prose—

Leslie Stephen's Johnson (English Men of Letters Series).

Selections from Boswell's Life of Johnson, by Chapman (Clarendon Press).

Literary Essays by Rawlinson (Macmillan & Co.), omitting the essays on Dante and Leonardo di Vinci. Newman, Idea of a University, Chapters V, VI and VII.

Poetry—

SHAKESPEARE: "The Merchant of Venice."

MILTON: Paradise Lost, Books I and II.

The following poems:—Wordsworth, Intimations of Immortality; Browning, Rabbi ben Ezra; Wordsworth, Tintern Abbey; Keats, Ode to a Nightingale, Ode on a Grecian Urn; Shelley, Skylark.

Candidates are required to pass in each of the two sections as well as in the total of English.

Classical Language.

(a) Sanskrit.

(Same as for the Internal Side, *vide* pages 42-44).

(b) Arabic.

(Same as for the Internal Side, *vide* pages 44-45).

(c) Persian.

(Same as for the Internal Side, *vide* pages 45-50).

Latin, Greek, and Hebrew.

(Same as for the Internal Side, *vide* pages 50-51).

Modern European Languages.

French.

(Same as for the Internal Side, *vide* page 51).

Mathematics.

(Same as for the B.Sc. Examination, *vide* pages 224-225).

Philosophy.

There will be two papers:—

Paper I.

(a) FRASER: Selections from Berkeley; 5th edition, pages 1 to 166 together with Fraser's introduction.

(b) PSYCHOLOGY: Syllabus, the same as for the Internal Side, *vide* pages 52-54.

Books recommended for the Syllabus in Psychology.

STOUT: Manual of Psychology (Relevant portions).

JAMES: Text-book of Psychology.

WOODWORTH: Psychology (Methuen).

Paper II.—Either

(a) MILL: Utilitarianism.

(b) Syllabus, the same as for the Internal Side, *vide* pages 55-56.

Books recommended for the Syllabus.

MUIRHEAD: Ethics.

MACKENZIE: Manual of Ethics.

J. SMITH: Ethical Principles.

or

ANCIENT ETHICS.

Plato, Republic I-IV (Davies and Vaughan).

ARISTOTLE: Ethics I-IV and X Chapters 6-9 (Peters), the ancient authors to be studied in the Translations named.

The paper on Ancient Ethics will include passages from Plato and Aristotle for explanation.

An elementary knowledge of history of Moral Philosophy for the period covered by Chapter II of Sidgwick's *Outlines of the History of Ethics* will be required.

Books recommended.—

Sidgwick's *Outlines of the History of Ethics* or R. A. P. Roger's *Short History of Ethics*.

A *Critical History of Greek Philosophy* by W. T. Stace (Macmillan).

Economics.

(Same as for the Internal Side, *vide* pages 56-63).

History.

(Same as for the Internal Side, *vide* pages 63-65).

M.A. EXAMINATION.**English Literature.**

There will be eight papers set, *viz.*, seven papers on the prescribed courses and one an Essay on one out of not less than three subjects connected with the course. The Essay and the History paper must be taken in the Final Examination; of the other six papers, any four may be taken in the Previous Examination and the remaining two in the Final.

I. Literary and Social History of England.

The following works are recommended :—

GREEN'S History of the English People.

JUSSEBRAND (Literary History of English people, 3 vols.).

WALKER : Literature of the Victorian Era.

SAINTSBURY'S History of English Literature.

II. The Drama (Typical Texts up to 19th Century).

MARLOWE : Edward II.

BEN JONSON : Every Man in His Humour.

FLETCHER : The Faithful Shepherdess.

GOLDSMITH : The Good-natured Man.

SHERIDAN : The Rivals.

Or II(b). Literature prior to 1100 A.D.

COOK : First Book of Old English (Ginn & Co.).

WYATT : Old English Grammar.

III. Poetry (Typical Texts up to 19th Century).

CHAUCER : Prologue.

SPENSER : *Faerie Queen*, Bk. I.

DRYDEN : *Absalom and Achitophel* (Part I only).

POPE : *Essay on Criticism*.

MILTON : *Paradise Lost*, Books I and II.

*Or III(b). Literature between 1100 and 1500 A.D.
with special study of Chaucer.*

EMERSON'S *Middle English Reader*, Section I.

CHAUCER : *Prologue and Knight's Tale*.

LANGLAND : *Piers Plowman*, *Prologue*.

„ „ *Passus I.*

IV. Prose (Typical Texts up to 19th Century).

SIDNEY : *Apologie for Poesie*.

SIR THOS. BROWNE : *Religio Medici*.

*Selected English Essays (Chosen and Arranged by
W. Peacock:—The World's Classics). Bacon to Gold-
smith.*

JOHNSON : *Lives of the Poets* (Arnold's edition published
by Macmillan).

V. Special Subject : *Shakespeare, with a detailed study
of the following plays:—*

As you like it; Hamlet; Cymbeline; King John.

Candidates will also be expected to show a general
knowledge of the leading plays other than the above,
and of the present position of Shakespearean criticism.

The following books are recommended :—

BRADLEY : Shakespearean Tragedy.

DOWDEN : Mind and Art of Shakespeare.

QUILLER-COUCH : Shakespeare's Workmanship.

WILSON : Life in Shakespeare's England.

HARRIS : The Man Shakespeare.

SIR SIDNEY LEE : Life of Shakespeare (latest edition).

Shakespeare's England.

VI. Modern Poetry.

WARD : English Poets, Vols. IV and V (Wordsworth, Coleridge, Byron, Shelley, Keats, Robert Browning, Matthew Arnold, Tennyson, Ingelow, Patmore, William Johnson (Cory), Meredith, Swinburne, Stevenson, Hilton, Francis Thompson and Rupert Brooke).

VII. Modern Prose.

Henry Esmond.

RUSKIN : Crown of Wild Olives.

HARDY : Mayor of Castorbridge.

GISSING : Private papers of Henry Ryecroft.

English Critical Essays (World's Classics Series).

VIII. An Essay on some subject connected with the Course.

N. B.—(1) Candidates must show a competent knowledge of the History of English Literature in all periods covered by the authors in their course.

(2) In papers II, III, IV, VI, VII, II (b) and III (b) questions on Unseen passages from similar texts shall be set and shall carry 30 marks.

(3) For candidates whose mother-tongue is English, questions in 'Latin in English' will be set in Papers II, III and IV in place of Unseen passages.

Sanskrit.

(Same as for the Internal Side, *vide* pages 75-81).

Arabic.

Note—Arabic words must be written in the Arabic character

PREVIOUS—(Three papers).

I PAPER.—Hamasa (Chapter on *المرثية*, *المراثي* and *المرثية* only) and 'Al-Mulleqat-us-Saba.'

II PAPER.—Mutanabbi (up to the end of *قافية الحال*) Maqamat Hariri (I—XII Maqamas) and Al-as war-ul. Muntakhaba (selections from Ibne Sharaf, Ibne Rashiq, Ibne Abde Rabbih and Louis Cheiko, published by Anwar-i-Ahmadi Press, Allahabad).

كتاب المراثي والامثال Anwar-i-Ahmadi Press, Allahabad).

III PAPER.—Translation from Arabic passages into English and *vice versa*.

FINAL—(Four papers).

I PAPER.—Seerat-ur-Rasool by Ibne Hisham (excluding the poems) and Abul Fida, Vol. I.

II PAPER.—Abul Fida, Vols. II, III and IV (to be studied with the help of Lane-Poole's Mahomedan Dynasties).

III PAPER.—Al-maa'ni, Al-urooz and Al-qawafi by Louis Cheiko (published by Anwar Ahmadi Press, Allahabad), and Wright's Comparative Grammar of Semitic languages.

IV PAPER.—Essay in Arabic on a subject or subjects connected with the History of Arabic literature.

NOTE.—A general knowledge of the literary history of Arabia down to the time of Hariri will be expected from the candidates.

Persian.

NOTE.—*Persian words must be written in the Persian character.*

PREVIOUS—(Three papers).

PAPER I. — Classical Prose—

Waqai Nemat Khan Ali, 101 pages from the beginning (Newal Kishore Press).

Akhlaq-i-Nasiri from the beginning to the end
تہذیب النفس

PAPER II. — Qasaid—

Qasaid Khaqani, Vol. I, pp. 99—102 and 274—361 (Newal Kishore Press).

Qasaid Urfi beginning with

اے مقام دود در بازار جان انداختہ
اقبال کرم سے گزد ارباب ہم را
اے پرزدہ داس بلا را

سپیده دم چو زدم آستین بشمع شعور
 جهان بگشتم و دردا بهیچ شهر و دیار
 صبحدم چون درد مد دل صور شیون زای من
 دمیکه لشکر غم صف کشد بخو فخری
 دل من باغبان عشق و حیرانی گلستانش
 رفتم ای غم زدر عمر شتابان رفتم
 چهره پردازی جهان رخت کشد چو به حمل
 ز آسمان و زمیں مژده ناگهان آمد
 هادت عشاق چیست مجلس غم داشتن
 ز خود گردیده بر بندگی چه گویم کام جاں بینی
 کجا به حسن شود باتو همچنان فرگس
 نو بهار آمد که افشاند چو حسن یار گل

PAPER III.—(a) Ghazals—

HAFIZ: All ghazals of ردیف‌الذم and those
 beginning with

دوش وقت سحر از غصه نجاتم دادند
 دوش دیدم که سلائک در میخانه زدند

ردیف‌الذم : All ghazals of

(b) Masnavi—

Mantiquattair by Attar.

M.A. FINAL.

PAPER I.—Later Prose and Poetry—

Safarnamah Nasir-ud-din (Anwar Ahmadi Press).

Qasaid Qaani (selections by Dr. Phillott, Calcutta).

From beginning to the end of page 50 together
with the Qasaid beginning with

روى آسون گشت جيهون زاشک جيهون زای من
هيداست و جام زر فشان از می گر انبار مده
هيداست و ساقى در قدح صهباز ميذا ريخته
ماه من ماند بسر وار سر وجولان داشتى
فهاى از نظر اى بى نظير از بس عيانستى

PAPER II.—Special Study—

Either,

Group A—Literature: Firdausi, Vol. I, Sohrab
and Rustam and Vol. II complete
with special reference to Math. Arnold
Browne, Warner and Shibli.

Or,

Group B.—Indian History: The Reign of Jehangir
from original sources with special
reference to Tuzuk-i-Jehangiri and
Iqbal namah.

PAPER III.—History of Literature—

Browne: Literary History of Persia, Vols. I and
II, and History of Persian Literature
under Tartar Dominion.

PAPER IV.—Composition including Essay in Persian on
any subject connected with the critical study
of Persian Literature.

Note.—Question on **مدائق البلاغة** and **معيار الاشارة** will be set in both examinations. Students who offer Persian are required to have such a knowledge of the Etymology of Arabic language as will enable them to explain all Arabic words and phrases occurring in the Text.

Latin.

(Same as for the Internal Side, *vide* page 89.)

Mental and Moral Science.

(Same as for the Internal Side, *vide* pages 89—91.)

Economics.

(Same as for the Internal Side, *vide* pages 92—102.)

History

(Same as for the Internal Side, *vide* pages 102—113.)

B.Sc. EXAMINATION.**English Literature.**

As in the General Section prescribed for the B.A., there will be two papers :—

1st Paper : Unseen passages from modern books, magazines or newspapers, on History, Biography, Travel, etc., with grammatical questions.

2nd Paper : An Essay on a subject of general interest.

Mathematics.

There will be three papers :—

Algebra : Binominal and exponential theorems, convergence and divergence of series, recurring series, simple continued fractions, Partial fractions, Inequalities, Determinants.

Trigonometry : Inverse trigonometrical functions, De Moivre's theorem, summation of trigonometrical series, hyperbolic functions, expansion of trigonometrical functions.

Analytical Geometry : The straight line, circle, parabola, ellipse, hyperbola, and the general equation of the second degree, treated by means of rectangular oblique and polar co-ordinates.

Differential Calculus : Differentiation, successive differentiation, development of functions, indeterminate forms, partial differential co-efficients, maxima and minima for a single variable, tangents and normals to

curves, asymptotes, multiple points on curves, envelopes, convexity, concavity, points of inflexion, radius of curvature, evolutes, curve tracing.

Integral Calculus: General methods of integration, standard forms, integration by parts, formulæ of reduction, rectification of plane curves, quadrature, surfaces and volumes of solids of revolution.

Statics: General conditions of equilibrium of a particle, and of a rigid body under the action of forces in one plane; the principle of virtual work; simple machines; simple frameworks graphically considered; friction centres of gravity; common catenary; Hooke's law.

Kinetics of a particle: Velocity and acceleration; Newton's laws of motion; work and energy; rectilinear motion; projectiles in a vacuum; circular and harmonic motion; simple and cycloidal pendulum; impact.

Hydrostatics: Fluid pressure, pressure on immersed surfaces, conditions of equilibrium of a floating body, specific gravity, properties of gases, machines depending upon fluid pressure.

Physics.

(Same as for the Internal Side, *vide* pages 126-130).

Chemistry.

(Same as for the Internal Side, *vide* pages 133-135).

Zoology.

The Examination will comprise two papers and a practical examination. Candidates must obtain the minimum pass marks in the practical examination as well as in the total of the theory papers.

The following syllabus is prescribed :—

The general principles of Biology treated in an elementary manner, including the theory of evolution with the general notions of Variation, Heredity and Adaptation.

The elementary principles of the geological and geographical distribution of animals.

The structure and phenomena of the animal cell treated in some detail.

Reproduction, sexual and asexual, pathenogenesis ; metamorphosis ; alternation of generations.

The structure, habits and development of the non-chordata as illustrated by—

Protozoa	..	Amœba, Paramecium, Euglena and Malarial parasite.
Porifera	..	Sycon or any other sponge.
Cœlenterata	..	Hydra, Obelia.
Platyhelminthes	..	Liverfluke.
Annulata	..	Pheretima, Nereis and Leech.
Echinodermata	..	Starfish.
Arthropoda	..	Prawn, Periplaneta, Anopheles and Scorpion.
Mollusca	..	A Fresh-water Mussel and Ampullaria or any other Pond Snail.

The principal characteristics, structure, and habits of the chordata as illustrated by—

Acrania—

Hemichordata	..	Salanoglossus.
Urochordata	..	Ciona or any other ascidian.
Cephalochordata	..	Amphioxus.

Craniota—

Pisces		Carcharias or any other Elasmobranch.
Amphibia	..	The Frog.
Reptilia		Calotes or any other lizard.
Aves	..	Columba (The skeleton of Gallus may be substituted).
Mammalia	..	The general characters of the Prototheria and Metatheria; Lepus; Squirrel or rat; Canis (skull only.)

The outlines of the development of ciona, amphioxus, frog, chick and rabbit. Amnion and Allantois, Placentation.

The elementary physiology of the various organs of the animal body as illustrated by the Frog and Rabbit.

Paper I shall comprise the non-chordata, the structure of the animal cell, the subjects of Reproduction and Histology and the general principles of Biology.

Paper II.—The Chordata, Vertebrate Embryology, Physiology, Geological and Geographical distribution.

Practical Course—Same as for the Internal side, *vide* pages 142-143.

Books recommended—Same as for the Internal side, *vide* page 143.

Botany.

Same as for the Internal Side, *vide* pages 148—151 with the following change:—

In 2 (b) Add volvox and read volvox, Pleurococcus, etc., etc.

MASTER OF SCIENCE EXAMINATION.

Mathematics.

(Same as for the Internal side, *vide* pages 152-155).

Physics.

(Same as for the Internal side, *vide* pages 155-157).

Chemistry.

(Same as for the Internal side, *vide* pages 163-165).

Zoology.

(Same as for the Internal side, *vide* pages 166-167).

Botany.

PREVIOUS EXAMINATION.

N.B.—Candidates for the M.Sc. examination will be required to pass in the written as well as in the practical examination separately.

The structure, life-history and affinities of the chief representatives of the principal groups of the Cryptogams.

Paper I shall comprise the Thallophyta.

„ II „ „ „ Bryophyta and Pteridophyta.

The requirements of the examination are approximately indicated by the following text books:—

1. STRASSBURGER: Text-book of Botany.
2. DE BARY: Comparative Morphology of the Fungi.
3. TUBER and SMITH: Diseases of Plants.
4. FISCHER: Bacteria.
5. CAMPBELL: Mosses and Ferns.
6. CAMPBELL: University Text-book of Botany.

Practical Examination.

The examination will deal with representatives of the chief classes of Cryptogams and with the technique connected with their study.

The following books are recommended :—

BOWER: Practical Botany.

STRASBURGER and HILLHOUSE: Practical Botany.

FINAL EXAMINATION.

N.B.—Candidates for the M.Sc. examination will be required to pass in the written as well as in the practical examination separately.

1. The comparative study of the vegetative and reproductive organ of the *Phanerogams* considered from the functional standpoint.

2. A detailed knowledge of cell structure traced from the unicellular to the complex organism.

3. The cell in relation to reproduction. Heredity and the phenomena of variation.

4. The relation of the plant to its immediate surroundings. The Physiology of plants including parasitism saprophytism and symbiosis.

5. The inter-relation between vegetation and climate. The outlines of Plant Ecology and the Geographical Distribution of plants.

6. The affinities of the more important families of plants including the main features of such fossil forms as help to elucidate these affinities.

7. The structure and life-history of representatives of all the chief orders and sub-orders of flowering plants.

Paper I shall comprise the general Botany of the
Gymnosperms and
their fossil forms.

„ II „ „ „ Angiosperms (Morpho-
logy, Embryology and
Life-cycles).

„ III „ „ „ Plant Physiology, Eco-
logy, and Geographi-
cal Distribution.

„ IV „ „ „ Heredity, Evolution
and Taxonomy

The requirements of the examination are approximately
indicated by the following text-books :—

1. STRASBURGER : Text-book of Botany.
2. DE BABY : Comparative Anatomy of Phanerogams,
and Ferns.
3. BATESON : Mendelism.
4. LOCK : Heredity, Variation and Evolution.
5. JOST : Lectures on Plant Physiology.
6. MARSHALL WARD : Disease in Plants.
7. SCHIMPER : Plant Geography.
8. BOWER : Origin of a Land Flora.
9. CLEMENS : Research Methods in Ecology.
10. SEWARD : Fossil Plants.
11. DARWIN : Forms of Flowers.

Practical Examination

The referring of plants and parts of plants to their orders and sub-orders. The general histology of phanerogams living and fossil. The student will also be required to satisfy the examiners that he is familiar with the chief forms of apparatus necessary to demonstrate the important facts of plant physiology.

Books recommended :—

BOWEN : Practical Botany.

STRASBURGER and HILLHOUSE : Practical Botany.

DARWIN and ACTON : Practical Physiology of Plants.

DETMER and MOORE : Plant Physiology.

Also such special memoirs as the teacher may suggest in the Annals of Botany, Transactions of the Royal Society and elsewhere.

BACHELOR OF LAWS EXAMINATION.

(a) PREVIOUS.

(Same as for the Internal Side, *vide* pages 176-177).

(b) FINAL.

(Same as for the Internal Side, *vide* pages 177-179) with the following changes:—

In No. III Hindu Law, omit Siromani's *Hindu Law*.

In No. VI Equity, substitute Maitland's *Lectures on Equity*, Part I for Snell's Chapters.

B. COM. EXAMINATION.

The subjects of instruction and examination shall be as follows :—

1st Year.

1. English.
2. Elements of Economics.
3. Elements of Currency and Banking.
4. Book-keeping and Accountancy.
5. Business Methods.
6. Economic and Commercial Geography.

A departmental examination will be held at the end of the first year.

2nd Year. B. Com. Examination, Part I.

1. English.

(a) General, and	..	..	1 paper.
(b) Essay	..	..	1 paper.
2. (a) Principles of Economics .. 1 paper.

(b) Money, Banking, and Elementary Statistics	1 paper.
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3. (a) Book-keeping and Accountancy .. 1 paper.

(b) Business Organisation	..	1 paper.
(c) Commercial Law	..	1 paper.
4. Economic and Commercial Geography .. 1 paper.
5. One of the following :—

(a) Economic History of Modern Europe.
(b) Administration.
(c) Chemistry.
(d) Physics.

3rd Year Course. B. Com. Examination, Part II.

Compulsory Subjects :—

1. English . . . (1 paper) Same as the B.Sc.
Standard and *Vivâ Voce*.
2. Industrial and Commercial Organisation.
3. Modern Economic Development of the Empire with
special reference to India (2 papers).

4. One of the following Groups :—

(a) Advanced Banking—Foreign Banking Systems,
Public Finance, Indian Currency, Banking
and Finance, Banking Law, Foreign Ex-
changes, Stock Exchange Practice, Bank
Management and Accounts . . . 2 papers.

(b) Accountancy.

Advanced Accountancy and Auditing, Costs Accounts,
Executorship Accounts and Trust Accounts . . 2 papers.

(c) Trade.

(i) Trade of one of the following great World Divisions
studied from the standpoint of trade movement and
Geography, involving a study of conditions of production
and marketing of Commodities, Transport, Trade Statis-
tics, Tariffs, etc., of the elected area.

The following Divisions shall be recognised :—

(a) West Europe.

(b) The Middle East and South Africa.

(c) The Far East—(Further India, China and Japan).

(d) India.

(e) North America.

(f) British Empire Countries generally . . 1 paper.

(ii) Economics of Transport . . . 1 paper.

(d) Secretarial work.

Secretarial Work and Practice,
Office Management . . . 1 paper.

Commercial and Industrial Law . . . 1 paper.

N.B. —No student will be allowed to take an optional subject in which instruction is not provided.

SYLLABUS.

ENGLISH.

1st and 2nd Years.

I. A paper including :—

Precis.

Correspondence.

Translation from direct to indirect speech and
vice versa.

Expansion of summarised ideas into full and
clear statements and *vice versa*.

Correction of grammatical errors and recon-
struction of incorrect or badly constructed
sentences.

Questions on grammar, syntax, punctuation,
vocabulary, use of technical words and
points of style as discussed in the "*King's
English*."

II. An Essay on a subject of general interest.

ELEMENTS OF ECONOMICS.

1st Year.

Production.—Analysis of the expenses of production, factors which limit supply.

Exchange.—Prices: laws of supply and demand.

Consumption.—The basis of demands; wants, budgets, and the division of Income.

Distribution.—Rent, Interest, Wages, and their difference.

* The supply of capital and credit; Co-operative credit.

The supply of labour and population.

Organisation and management.—The principle of substitution.

Large and small-scale production.

Division of labour. Machinery.

[*N.B.*—An outline for teaching this course by the project method has been filed with the Department of Commerce, Allahabad University.)

The project method begins with the first-hand study of local small-scale industries and living conditions, chosen to illustrate different problems of production. (For example, wheat, milk, pottery, cotton or woollen cloths.) From the actual conditions of these industries the fundamental principles of economics are deduced. The relative efficiency of more specialised labour and machinery is studied, if possible with actual machines leading up to a study of large-scale manufacture and marketing.]

PRINCIPLES OF ECONOMICS.

2nd Year.

Subject-matter and purpose of Economics.

Method of reasoning and presentation.

Definitions and fundamental concepts.

The factors of production—Labour, Capital, Land, Organisation—classified according to quality and quantity. Efficiency of labour in relation to other factors.

The aims of production, consumption and utility. Demand for consumer's goods. Demand for producer's goods.

Exchange:—Market prices, their fluctuations decreased through transportation, speculation and organisation of the market. Tendency to normal prices. Monopoly prices. Price in international trade.

Distribution of the price obtained to the agents of production through substitution and equalisation of marginal returns. Rents, interest, wages, profits.

Theory of economic progress. Possible reconciliation of better production with better distribution.

ELEMENTS OF CURRENCY AND BANKING.

1st Year.

Money—

The origin of money. Barter. Grain payments. Use of the precious metals, Coins and Currency systems, the legal basis of money, mint price of gold or silver, parity of exchange, token money, legal tender, Gresham's Law. Withdrawal of light coin.

Double standard, silver standard ; gold standard. State of coinage in India prior to 1835. Adoption of standard Rupee throughout British India and demonetisation of Gold.

Fall of the price of silver. The failure of proposals for bimetallism. The Sherman Act.

The Indian Currency Committee of 1893 and the closing of the mints. The Committee of 1898. Gradual adoption of the Gold Exchange standard system. Gold Standard Reserve.

Paper Currency, convertible and inconvertible. Bank notes. Issue Department of the Bank of England. The inconvertible paper currencies of Europe since the War. The advantages and dangers of paper currencies.

The Indian paper currency. Composition of the Paper Currency Reserve—before, during and after the War. Its relation to the Treasury Balances.

Banking—

The work of a bank. Balance Sheet of a bank. The cheque and clearing system. Other means of inland remittance : bank drafts, bills of exchange, hundis. The English Branch banking system and London clearing system. Banking amalgamations.

Growth of banking in India. Mahajans, chetties, shroffs. Early joint-stock banking. The Presidency Banks.

Present banking system of India. , The Imperial Bank. Joint-stock Banks, European and Indian. Industrial and Co-operative banks. Exchange Banks.

Government control of banks. Information to be made public. Other means of protecting customers. Post Office savings banks.

Prices—

The Price level. Changes ascertained by index numbers. Interpretation of Index numbers.

Causes of changes of price level. Quantity of money; The balance of trade. Over-issue of paper money. Creation of bank credit, and the process of creating and cancelling bank deposits. Operation of this process in England. Extent of its operation in India.

Changes of the price level in England and in India from 1860. Probable causes. The special effects of the Great War.

The economic and social effects of rising prices and of falling prices. Their effects on the trading and agricultural classes in India.

2nd Year.

Money, Banking, International Trade and Elementary Statistics.

Currency—

Monetary Standards—Gold Standard and convertibility, gold exchange standard and external convertibility; bimetallism and its relation to price level and to international monetary conference; fiat money and inconvertibility; place of credit in a currency system.

Indian Currency.—History of Indian currency from 1800. Principal recommendations of the Committees of 1893, 1898, 1919 and of the Royal Commission of 1913-14. Legal Basis of the Indian Currency System of the Present day. Comparison with currency systems of other

countries, especially the United Kingdom, France, the United States and the Phillipines. Volume and composition of media of exchange in India—coins, notes, and bank deposits. Composition and management of Paper Currency Reserve and Gold Standard Reserve.

Banking—

Theory of Banking.—Nature of banking capital, function of specie and legal tender reserves; method and extent of credit issues; relation between loans and deposits.

Function of Banking.—Financing internal trade, foreign trade, industrial concerns, agriculture, speculative activities, relation to the volume and character of the trade of the country and to industrial development and industrial organisation, function of a central bank as a banker's bank, as financial agent of government, as stabilising influence in depressions, and as influencing prices, money rates and banking development.

Classes and systems of Banks.—Private banks (Indian and foreign); joint-stock (foreign and Indian); exchange banks. English, American, Dutch, etc., Shroffs and Bazar bankers and money-lenders; the Imperial Bank, its organisation and functions; terms of its charter. Branch banking.

Clearing houses and other forms of inter-bank relations

Finance—

Finance.—Studied from the standpoint of actual practice, and how a person desiring credit in one of its forms obtains use of it.

Commercial credit and the financing of internal trade; industrial credit and the financing of industrial undertakings; agricultural credit and the financing of agriculture; foreign exchanges and financing of foreign trade.

Sources and volume of credit of various kinds in the different cities and provinces of India. Seasonal and geographical flow of funds in India. Bills of exchange. Flow of funds between London and India.

Rates of interest and discount, bank rate, market rate, shroff and trade rates; on debentures and bonds; on agricultural loans

Theory of Prices.—The Price level in India; variation during the last half century; relation to external price level; secular trend; seasonal variations and cyclical fluctuations. Relation of price level to volume of circulation of currency and credit. Expansion and contraction of the currency in accordance with the needs of the country; inflation and deflation. Critical examination of the quantity theory of money, including statistical tests.

Elementary Statistics—

Scope and Utility of Statistics. Collection of Data, Tabulation, Averages, Dispersion, Skewness, Graphic Method, Accuracy, Index Numbers, Interpolation, Association, Contingency, Correlation, Samples, Common errors in statistics.

Statistics of British India—

Population, Vital Statistics, Production, Wages, Prices, Trade, Labour, Income, etc.

BOOK-KEEPING AND ACCOUNTANCY.

1st Year.

The principles of Double Entry Book-keeping and their application. Books of original entry. The Ledger, Trial Balance, Trading and Profit and Loss Accounts, with apportionments. Balance Sheet.

In the treatment of the above, the following matters will be included:—Cheques, Bills of Exchange, and Promissory Notes; Good-will; Classification of Assets; Bad Debts; Depreciation and Reserve (elementary); Consignments; Joint Venture and Contract Accounts; Elementary Partnership and Company Accounts.

2nd Year.

1. Special problems in Partnership accounts—Bank accounts—Insurance accounts—Company accounts, including reconstruction and amalgamation—Bankruptcy and Liquidation accounts—Departmental and branch accounts—Double accounts—Income Tax—Royalty accounts—Hire and Purchase agreements, etc.

2. Depreciation Reserve, Reserve Funds (Advanced).

3. Criticism of published accounts.

BUSINESS METHODS.

1st Year.

The general routine of a Business House:—Inward and Outward Correspondence, including Drafting and Filing Methods of Rapid Communication, Duplicating Processes.

The significance of Trade, Commerce and Industry, Manufacturing and Distributing Houses. The buying and selling of goods. Importation and exportation, with an elementary knowledge of fire and marine insurance as applicable thereto.

The meaning of the principal commercial terms occurring in connection with the above; and the preparation of the chief documents involved, including the arithmetical calculations.

Business Organisation.—

2nd Year.

1. Organisation of Partnerships, Joint-stock Companies, Co-operative Societies and Trusts.

2. Methods of Financing firms, companies and corporations.

3. Detailed organisation of various departments of retail houses, wholesale concerns, departmental stores-multiple-shops, indent business.

4. Filing, indexing and general office routine

5. Company practice:—Organisation and Management, Managing Agents, Boards of Directors, meetings of Companies and Directorates, Procedure at meetings.

6. Publicity. —Travelling agents, advertisement and modern marketing methods.

7. Insurance. —Fire and Marine.

ECONOMIC AND COMMERCIAL GEOGRAPHY.

1st Year.

Climate:—Annual distribution of temperature and rainfall with causes: how these factors divide the world into climatic regions.

Natural Regions of the world in relation to climatic regions : their natural vegetation, animal life, occupations and products.

Soil. (Outline only) :— Classes and properties, preservation of soil irrigation, dry-farming.

Commercial Products :— Each according to its properties and utility, requirements (of climate, soil, etc.), distribution and commercial importance (a) generally, (b) in India.

1. Vegetable products, including forest products.
2. Animal commodities.
3. Fisheries.
4. Mineral wealth.

Sources of power.

Studies of distribution maps.

Growth of Towns — Means of Transport

2nd Year.

General Economic and Commercial Geography of West Europe (particularly Great Britain and Germany), North America and India so studied as to illustrate general principles of Economic Geography.

Commercial Law.—

1. General Law of Contracts.
2. Principal and Agent.
3. Bailments.
4. Sale of Goods.
5. Indemnity and Guarantee.

6. Partnership.
7. Negotiable Instrument.
8. Company Law.
9. Law of Specific performance.

Economic History of Modern Europe.—

Introductory :—Economic Foundations (a) The Manor—

The open-field system—Holding and Tenants—

Decline of Serfdom—Beginnings of Enclosure in England—Agrarian conditions in France and Germany in the 18th Century.

(b) General aspects of mediæval industry—Gilds, their objects, organisation and decline—use of the domestic system, its advantages and disadvantages.

(c) Aspects of mediæval trade—Trade expansion in early modern times—Trade restrictions in the 18th Century—Mercantilism—The Physiocrats and Adam Smith—Beginnings of Free Trade in England.

2. The French Revolution and Revolutionary and Napoleonic Reorganisation in France and Germany.

3. Agriculture, Industry and Trade since 1815—in England, France and Germany. The Agrarian and Industrial Revolutions of England, Extension of Facilities of Transport—Agriculture and Agrarian problems in France and Germany—Development of Industry in France and Germany. The Commerce and Commercial policy of France, Germany and England in the 19th Century.

4. Economic development of Russia—The abolition of Serfdom—Beginnings of the Industrial Revolution—Railway development—Foreign trade, tariff policy—The Revolution of 1917-18.

5. Labour Organisation and Labour Legislation in Great Britain and on the Continent during the 19th Century—Spread of Socialism—Social Insurance.

6 The Economic Causes of great War—Results—Problem of Reconstruction.

(The last two sections to be studied in an Elementary way.)

Administration.

The Government of India—The Secretary of State to his Council—The Central Government in India—Provincial Governments—Local Bodies.

Outlines of the British Constitution—Its chief features, The Crown, Parliament, Cabinet, Civil Services, Local Bodies.

Relations between the Component parts of the British Empire.

PART II.

3rd Year B. Com.—

English—1 paper unseen. On the lines laid down for English prescribed for the present B.Sc. degree with *viva-voce* Examination.

INDUSTRIAL AND COMMERCIAL ORGANISATION.

3rd Year—

Introductory Economic Organisation.—Economic Organisation as the mechanisms and devices of society for the production and distribution among users of scarce goods and services. Types of economic organisation, including mediæval and non-industrial types. The industrial revolution of the 18th century.

Industrial Organisation.—The modern machine system; basic principles and conditions of introduction; effects of its introduction upon labour, production and the organisation of industry. The factory systems and cottage industries. Modern industrial management and the machine in Agriculture

Commercial Organisation.—Markets; local, provincial, national and international; produce, raw material and manufactured goods, wholesale and retail. Produce and stock exchanges. Speculation; function and evils; hedging and similar contracts. Systems of marketing direct to consumer, middlemen, co-operative middlemen; functional middlemen in communication, insurance and finance and transportation.

General Problems of Control. - Concentration of production, of wealth and income, of private control over industrial activities. The Wage System and the worker; conditions of employment, unemployment, accident and fatigue. Employer and employees relationships. Factory Legislation. Guidance of economic activity:

monopoly and competition; governmental interference, initiative and control; nationalisation of industries; social control through tradition; social inheritance; the family, public opinion, and voluntary associations.

3. Modern Economic Development of the Empire with special reference to India :—

- (a) The Indian Empire; the country and its problems; agricultural development and the land revenue, famine and irrigation, railway development, economic transition and the growth of industry; tariffs and the development of foreign trade.
- (b) The British Dominions in Australasia and Africa: The creation of the new nations (the Dominions of Australia, New Zealand and South Africa) out of a number of individual States, including the economic development of the separate States and the factors making for economic union: the land, labour, tariff and transport problems of the new nations created by union and their economic position in relation to other parts of the Empire.
- (c) The Crown Colonies, Egypt and the African Protectorates and Dependencies: The economic results of British rule, the development of means of communication and the labour problem in relation to the importance of the African territories as sources of raw materials.

- (d) The Dominion of Canada: The economic consequences of federation, railways and the development of the Middle West, agricultural and industrial development, tariff, history and the commercial relations between Canada and the United States and Canada and the West Indies.
- (e) The West Indies: The decline of the old sugar economy, the new agriculture, the Panama Canal.
- (f) The Colonial Conferences and the development of Imperial trade relations.

Banking and Finance.

1. Comparison of banking systems of India, England and America.
2. Bank organisation and management. The various officers and duties of each; method of procedure, control of policies.
3. Present day problems in Indian Currency, Banking and Finance.
4. Banking law relating to cheques, bills of Exchange, Promissory Notes, Bankers advances against securities, Bankers credit.
5. Foreign Exchanges—Theory and Practice.
6. The Stock-Exchanges—Theory and Practice.
7. International Trade—Free Trade and Protection, Imperial preference.
8. Public Finance.

Elementary Public Finance.—Revenue. Sources of State revenue. Various kinds of taxes. Taxation and equity. Incidence of taxation and relation to distribution of wealth. Effect on production. Cost of raising revenues and administrative difficulties.

Expenditure.—"Productive" and "unproductive." Industrial undertakings. Relation to scope of State activities. Relation to distribution of wealth.

Debt.—Bond issues. Funded and Unfunded. Short and long-term. Treasury bills. Expansion of paper currency. Sinking funds.

Financial Administration in India.—Imperial, Provincial and local finance. Budgets (primarily Imperial, United Provinces and Allahabad). Division of revenues and special problems of the Imperial Government, of the provinces and of municipalities and districts. Separation of accounts of industrial undertakings.

Accountancy and Auditing.

(a)

1. Executorship accounts. Trust accounts.
2. Elements of cost accounting.
3. Criticism of published accounts.

(b) Auditing (Elementary).

Trade.

The General Economic Geography of the selected division with special study of its Climatology, Products, and Communications.

Economics of Transport

Secretarial Work and Practice.—

(Syllabus will be supplied later.)

Commercial and Industrial Law.

(a)

1. Insolvency.
2. Arbitration.
3. Insurance (Fire and Marine).
4. Patents and Trade Marks.

(b)

1. General Principles of the Law of Employers and Workmen.
2. Factory Law.
3. Workmen's Compensation and Employers' Liability.
4. Trade Unions.

Books Prescribed.—

(Same as for the Internal side, *vide* pages 205–209).

